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OCEANOGRAPHIC OBSERVATIONS, 1958

EAST COAST OF THE UNITED STATES

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OCEANOGRAPHIC OBSERVATIONS, 1958
EAST COAST OF THE UNITED STATES

by

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Contribution No. 1048 from the Woods Hole Oceanographic Institution

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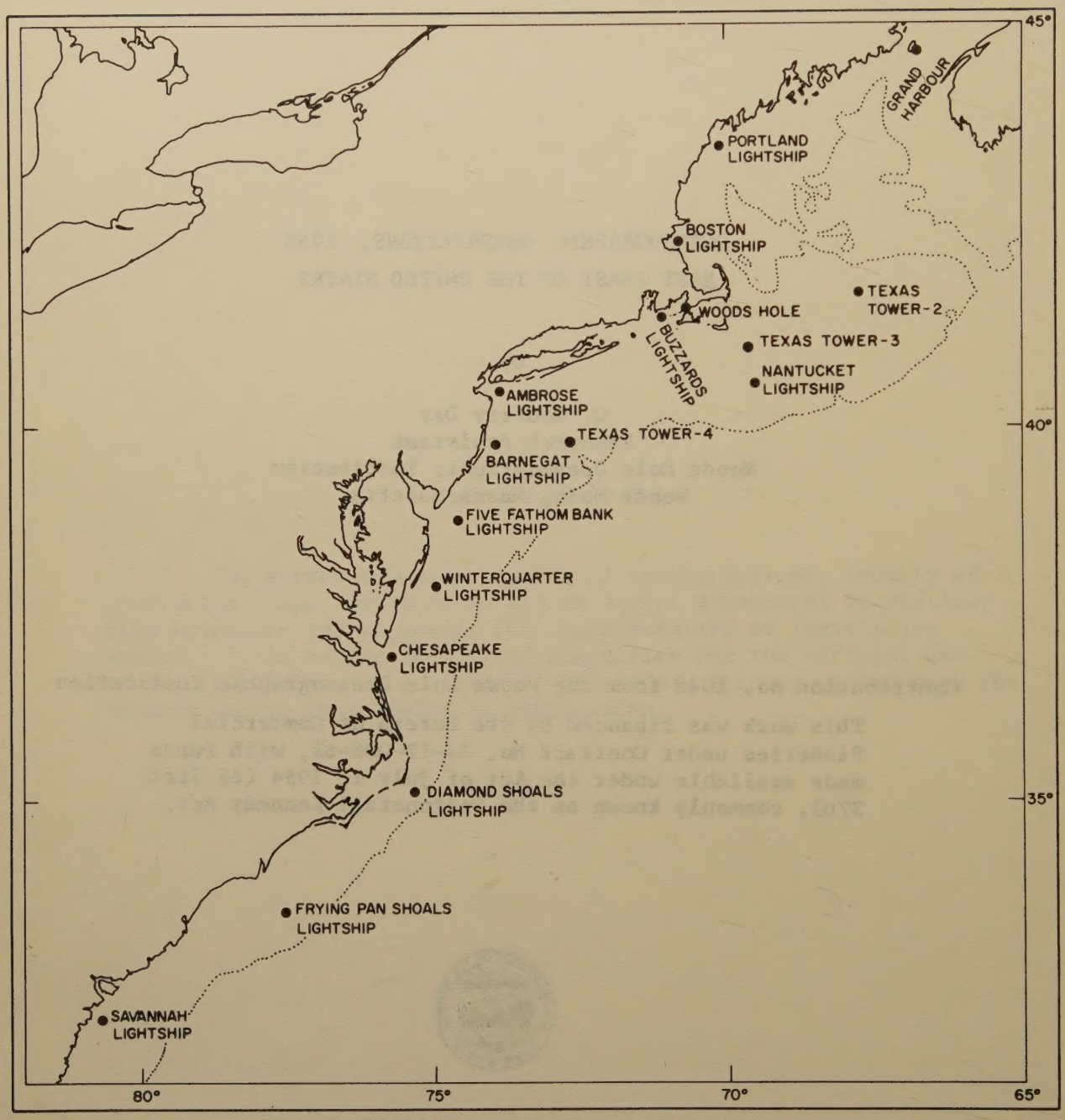

Locations along the Atlantic coast reported herein.

CONTENTS

	Page
Abstract	1
Introduction	1
Commentary, figures and data	1
Grand Harbour, Grand Manan	4
Portland Lightship	6
Boston Lightship	19
Georges Shoal, Texas Tower #2	26
Nantucket Shoals, Texas Tower #3	29
Nantucket Lightship	31
Woods Hole, Massachusetts	44
Buzzards Lightship	46
Ambrose Lightship	49
Texas Tower #4 (off New York)	56
Barnegat Lightship	58
Five Fathom Bank Lightship	66
Winter Quarter Lightship	74
Chesapeake Lightship	82
Diamond Shoals Lightship	90
Frying Pan Shoals Lightship	104
Savannah Lightship	112
Literature Cited	119

LIST OF FIGURES

No.		Page
Frontispiece.	Locations along the Atlantic coast reported herein...	ii
1.	Normal cycle of temperature at surface and bottom along the string of observation posts for 1958.....	3
2.	Grand Harbour, Grand Manan.....	4
3.	Portland Lightship.....	6
4.	Boston Lightship.....	19
5.	Georges Shoal, Texas Tower #2.....	26
6.	Nantucket Shoals, Texas Tower #3.....	29
7.	Nantucket Lightship.....	31
8.	Woods Hole, Massachusetts.....	44
9.	Buzzards Lightship.....	46
10.	Ambrose Lightship.....	49
11.	Texas Tower #4 (off New York).....	56
12.	Barnegat Lightship.....	59
13.	Five Fathom Bank Lightship.....	67
14.	Winter Quarter Lightship.....	75
15.	Chesapeake Lightship.....	83
16.	Diamond Shoals Lightship.....	91
17.	Frying Pan Shoals Lightship.....	105
18.	Savannah Lightship.....	112

LIST OF TABLES

No.		Page
1.	Surface water temperature - monthly and annual means for 1958....	vi
2.	Grand Harbour, Grand Manan.....	5
3.	Portland Lightship.....	6
4.	Boston Lightship.....	20
5.	Georges Shoal, Texas Tower #2.....	27
6.	Nantucket Shoals, Texas Tower #3.....	30
7.	Nantucket Lightship.....	32
8.	Woods Hole, Massachusetts.....	45
9.	Buzzards Lightship.....	47
10.	Ambrose Lightship.....	50
11.	Texas Tower #4 (off New York).....	57
12.	Barnegat Lightship.....	60
13.	Five Fathom Bank Lightship.....	68
14.	Winter Quarter Lightship.....	76
15.	Chesapeake Lightship.....	84
16.	Diamond Shoals Lightship.....	92
17.	Frying Pan Shoals Lightship.....	106
18.	Savannah Lightship.....	113

Table 1

Surface Water Temperatures - Monthly and Annual Means for 1958

	Grand Manan	Portland Lightship	Boston Lightship	Georges Shoal	Nantucket Lightship	Woods Hole	Buzzards Lightship	Ambrose Lightship	Barnegat Lightship	Five Fathom Bank Lightship	Winter Quarter Lightship	Chesapeake Lightship	Diamond Shoals Lightship	Frying Pan Shoals Lightship	Savannah Lightship
Jan.	37.1	40.0	41.0	45.7	-	37.0	39.6	-	-	41.9	45.3	43.3	56.2	62	-
Feb.	-	38.6	36.6	41.7	39.8	32.0	34.5	36.5	36.7	37.5	37.0	37.7	48.3	51	46.4
Mar.	-	39.0	-	41.0	-	35.9	-	37.5	38.5	37.6	38.6	39.1	42.0	51.7	52.4
Apr.	42.6	43.5	42.6	42.3	42.1	44.1	42.4	43.1	44.7	45.3	45.9	47.3	49.6	57.0	61.2
May	45.9	46.4	48.9	45.2	45.7	51.8	50.1	-	51.8	-	55.4	60.0	-	68.3	71.5
June	51.4	50.4	52.9	49.4	-	60.4	56.2	-	61.7	-	-	68.9	74.4	76.9	78.5
July	55.6	59.3	58.6	52.8	-	67.2	62.3	67.9	69.0	-	70.7	72.6	81.0	81.4	82.1
Aug.	58.2	59.5	58.4	58.2	63.0	70.0	64.9	70.1	72.3	-	74.3	75.6	81.8	82.2	83.9
Sept.	54.7	56.4	56.4	60.4	-	66.0	63.6	64.9	-	69.0	70.8	72.2	78.6	82.0	81.7
Oct.	50.2	-	53.6	57.0	-	57.7	57.5	58.5	-	-	62.7	63.3	67.0	75.6	72.7
Nov.	43.4	47.7	48.1	52.5	-	50.1	51.9	52.2	53.0	-	54.5	57.6	64.8	72.6	65.8
Dec.	33.1	42.6	43.5	45.5	-	36.5	42.7	-	43.2	-	47.2	48.3	64.6	68.3	58.2
Ann.	-	-	-	49.3	-	50.7	-	-	-	-	-	57.2	-	69.1	-

OCEANOGRAPHIC OBSERVATIONS, 1958
EAST COAST OF THE UNITED STATES

ABSTRACT

Daily water temperature and salinity observations for 1958 from seventeen locations along the Atlantic seaboard are tabulated, plotted and discussed for the third consecutive year.

INTRODUCTION

Through the cooperation of the U. S. Coast Guard, the Woods Hole Oceanographic Institution established late in 1955 a series of Oceanographic Observation Posts at a number of lightship stations along the east coast of the United States. Additional data have been obtained from independent observers and, courtesy of the U. S. Air Force, from Texas Towers 2, 3 and 4. The temperature data from Narragansett Marine Laboratory, previously reported for 1956 and 1957, is missing for 1958 because of thermograph failure.

The lightship data have been forwarded on a monthly basis to Woods Hole where they have been processed. The bathythermograms have been read at several levels and tabulated; salinities were determined by titration or salinometer. The records of air temperature, weather, wind and clouds were used in studying the other data, but are not presented here as they are the same as those published in the daily weather maps of the U. S. Weather Bureau.

In addition to tabulating these data, mean temperatures for each level for three equal time periods per month have been determined and plotted as time-depth profiles for the year at each station where bathythermographs were used. The one-third monthly mean surface temperatures have been plotted in comparison with the monthly mean surface temperature for the period of record of each station.

The one-third monthly means of surface salinity were appended to the temperature profiles, together with the weekly bottom salinity values.

The monthly mean surface water temperatures for the year 1958 for all stations are listed in table 1, for comparison with previous records.

Again we are particularly indebted to the U. S. Coast Guard personnel aboard the lightships participating for making the observations: to Mr. Edward Green at Grand Harbour, Grand Manan; Mr. George Ferris at Woods Hole and to the personnel of the 12 Weather Squadron USAF at the three Texas Towers reporting and at Otis Air Force Base.

We hope to continue the collection and publication of these data on an annual basis, and should be glad to include data of comparable nature from other locations.

This work was supported by the U. S. Fish and Wildlife Service under Contract No. 14-17-008-62 with the Woods Hole Oceanographic Institution.

COMMENTARY

Surface Temperature (Figure 1)

The two outstanding features of the surface water temperature regime during the winter were the anomalously low readings

found from Ambrose lightship southward, and the weakening of the temperature barrier ordinarily found off Cape Hatteras, as indicated by the extension of the 48° F. isotherm all the way to Savannah. During this same period, January through March, temperatures at Portland and Boston remained slightly above the mean.

This pattern of surface water temperature closely parallels and is evidently related to meteorological conditions during this time. A high pressure cell in the Greenland-Baffin Land region during January and February and over Hudson Bay in March presented a block which deflected polar air southward across the east coast, bringing abnormally low temperatures (Ludlum 1958a and b). Maine and at times New England, however, experienced occasional incursions of moist, maritime air from the east and northeast, producing above normal temperatures and precipitation during both January and March.

The extremely low surface water temperatures seen at Diamond Shoals and the marked weakening of the temperature barrier there, indicate the dominance of Virginia coastal water over Gulf Stream water in the region. The reasons for this dominance cannot be definitely described at this time; a likely conjecture is that above-normal precipitation and runoff from November through May (Monthly Weather Review) contributed to a pressure gradient stronger than usual, which, combined with a marked northerly component of wind direction, gave added volume and strength to the southward movement of coastal waters.

In general, winter conditions for 1958 resembled those for 1956 except that the temperatures fell even lower and the cold persisted longer, while 1957 was characterized by a warm winter.

From Five Fathom Bank northward warming was slow and values fell below the mean. Summer readings were slightly below "normal". From Winter Quarter Lightship southward, however, warming was rapid after the severe winter and summer temperatures were near or above the means at the various stations. Maximum temperatures occurred in August at all stations except Nantucket.

From Cape Hatteras northward cooling was in advance of the mean except during November, when air temperatures were anomalously high. During December surface temperature declined sharply as did air temperatures.

The three years of data from the lightship program so far accumulated indicate a gross relationship between anomalies in air temperature and in water temperature over the eastern continental shelf. This is to be expected near a windward shore where continental air masses flow seaward. Generally speaking, the relationship appears to be closer during the winter months, a period characterized by strong winds, low relative humidity and increased evaporation at the surface. During the period of thermocline, winds are weaker and relative humidity greater, while such factors as radiation and cloud cover become more important as the season progresses. Hence the relationship between anomalous air and water temperature is less apparent during the summer.

Bottom Temperature (Figure 1)

During the nearly isothermal conditions of winter, bottom temperatures reflect surface conditions, exhibiting only a slight lag in chilling. Thus in 1958 bottom minima, like the surface values, was low.

As was the case at the surface, the temperature barrier usually found at Diamond Shoals was weakened, and water less than 50° F. extended southward to Savannah. During the two previous winters the 50° isotherm fell at or slightly north of Diamond Shoals.

Warming at the bottom is a steady progression parallel to surface conditions up to the time the thermocline is formed. Once a temperature gradient appears, bottom temperature is modified, sometimes abruptly, by the prevailing weather, with wind the governing factor.

Bumpus (1957) described an intrusion of cold water near the bottom in July 1956, at Five Fathom Bank, Winter Quarter and Chesapeake Lightship stations following a period of preponderant strong southerly winds. Similar conditions appear in early July of 1957 (Day 1959) and again in 1958. On the basis of three years of data it appears safe to consider this advection normal for the season, as was suggested earlier by Bumpus.

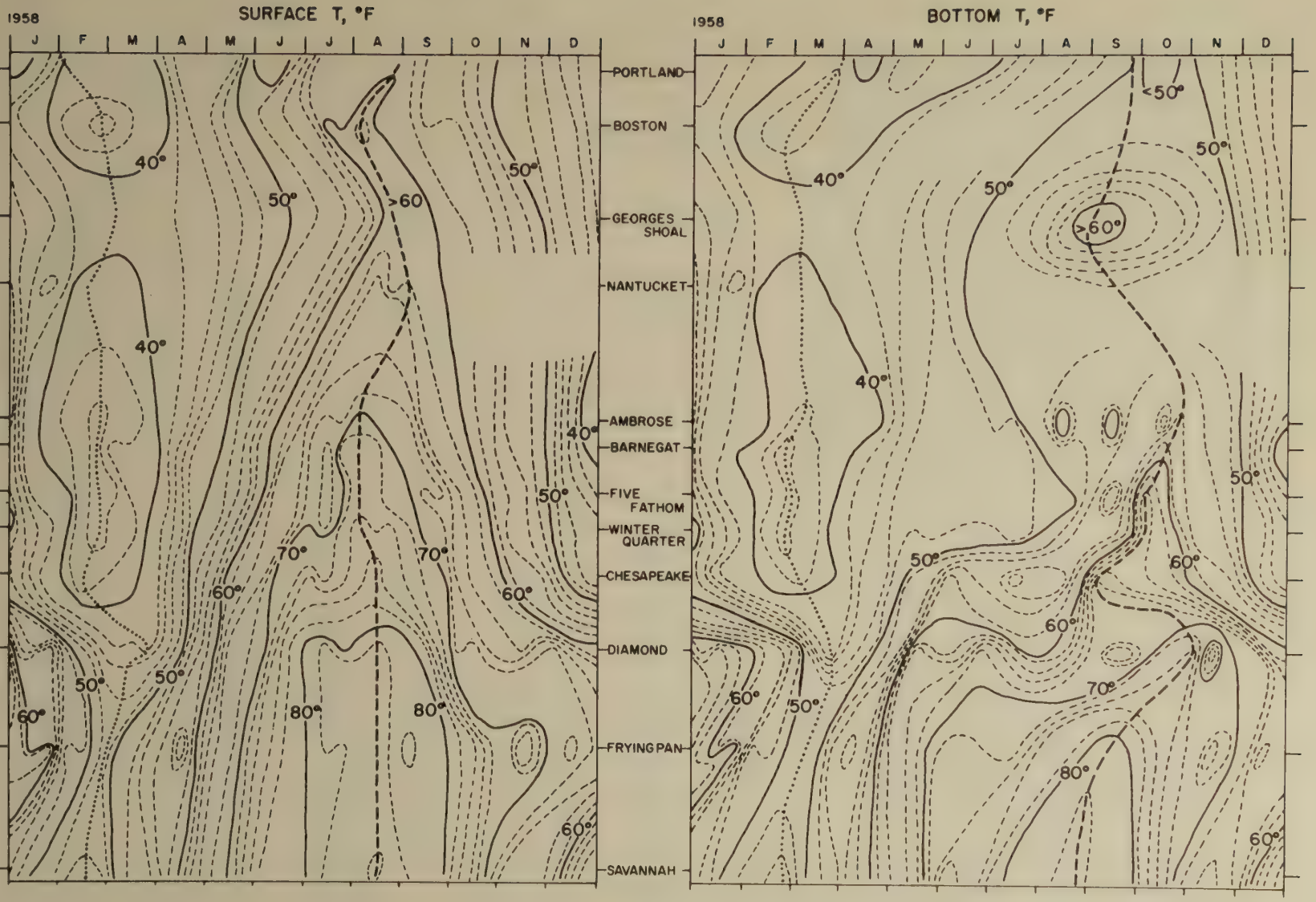

Figure 1. The cycle of temperature at the surface (left) and bottom (right) along the string of observation posts for 1958. Heavy dotted and dashed lines indicate minimum and maximum temperatures respectively .

The running plots of 10-day means for 1958 at Ambrose, Five Fathom Bank and Winter Quarter stations (Barnegat data missing) show for September a similar situation, but one triggered by a different mechanism. Hurricane Daisy on August 28 and 29 sharply reduced temperature gradients from Chesapeake northward to Ambrose Lightships and abruptly raised bottom temperatures. After the storm, which was of limited area, thermal stratification again became more pronounced, conditions returning to a status quo ante. Hurricane Helene on September 27 and 28 once again caused an overturn and abrupt warming at the bottom. The former storm produced maximum bottom temperatures for the season at Five Fathom Bank and Chesapeake stations; the latter at Winter Quarter.

Grand Harbour, Grand Manan
(Figure 2, Table 2)

As was the case in 1956 and 1957, surface water temperatures at Grand Harbour in 1958 were below the mean for the period of record at Southwest Head during the winter and above the mean during the summer. Temperature fluctuations at Grand Harbour are extreme and comparison between years difficult. Very generally, however, it can be said that temperatures through July of 1958 were above those for 1956 and quite close to those of 1957. The maximum in early August lies between the maxima for 1956 and 1957, the latter being highest. Cooling through November appeared "normal", while December values fell sharply to more than 5° F. below the readings for the two years previous.

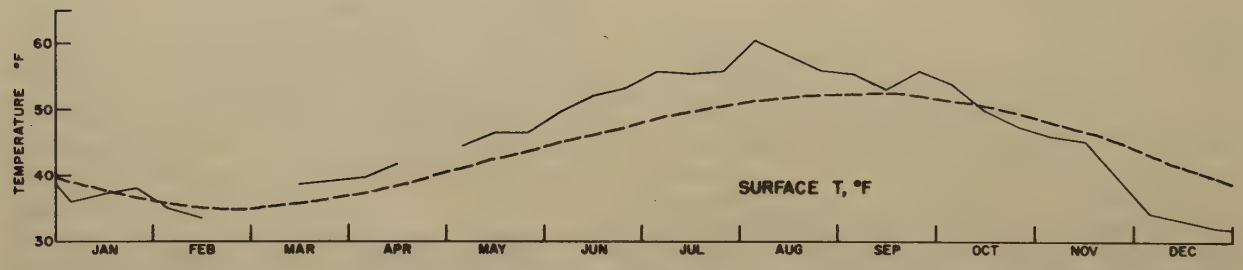

Figure 2. Grand Harbour, Grand Manan, 1958 (solid line) and Southwest Head, Grand Manan, 1929-1936 (dashed line).

Table 2

GRAND HARBOUR, GRAND MANAN, N. B., CANADA 44°40.8'N. 66°44.6'W.

Surface Temperature °F - 1958

Month Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	40.0	37.0	-	40.0	-	52.0	59.4	59.0	56.8	53.0	45.1	33.0
2	38.6	33.5	-	37.5	-	48.0	60.0	60.4	54.0	55.0	41.5	35.5
3	38.0	34.0	-	37.0	-	46.1	55.0	59.0	53.0	55.5	-	36.5
4	30.0	34.7	-	34.2	42.6	48.5	60.9	59.3	54.6	56.0	45.2	36.3
5	29.5	36.2	-	41.2	44.1	50.0	57.0	64.0	-	53.0	48.4	37.0
6	34.0	36.0	-	40.5	45.0	56.2	53.1	60.0	59.5	54.0	47.2	36.0
7	35.0	31.2	-	39.2	42.9	45.8	53.9	61.5	55.0	49.0	48.6	33.0
8	41.8	37.3	37.3	42.0	41.9	51.0	52.0	58.0	57.0	50.8	45.4	30.0
9	36.2	35.0	39.0	42.0	48.9	49.8	50.8	67.0	53.0	58.0	45.3	30.0
10	36.0	35.4	41.0	42.3	45.5	49.0	55.1	57.2	56.0	54.0	46.4	34.0
11	-	30.7	45.0	42.1	45.1	48.3	51.5	60.6	53.7	52.8	44.8	31.3
12	34.5	32.5	42.2	38.5	44.0	48.2	55.1	65.2	50.5	48.1	-	-
13	37.0	30.0	42.1	38.0	49.2	50.0	55.4	58.2	53.1	48.0	44.4	31.0
14	34.5	30.2	38.6	37.4	46.0	53.8	55.2	62.8	52.5	45.5	-	34.8
15	37.5	29.8	36.5	48.0	42.8	50.0	56.8	56.0	51.3	50.0	-	32.4
16	39.5	29.9	36.3	41.8	47.0	53.4	53.5	55.2	55.4	49.2	46.0	33.0
17	40.5	32.5	36.2	47.0	47.8	51.5	55.0	55.2	53.9	53.8	44.0	-
18	-	32.4	36.0	44.5	47.9	54.9	57.2	55.1	52.1	51.5	44.0	34.5
19	39.0	30.0	35.0	45.5	45.2	58.0	55.4	57.2	52.6	50.0	48.0	32.0
20	35.5	32.0	37.5	45.0	49.8	52.0	57.2	56.9	55.0	49.3	44.8	36.0
21	34.2	32.8	36.5	45.2	46.0	51.5	61.2	55.0	58.0	46.4	45.0	29.8
22	35.0	33.9	35.6	47.0	49.4	49.0	57.5	54.6	58.0	47.0	43.0	29.8
23	37.8	34.0	37.6	44.9	45.2	49.0	55.0	66.3	60.9	49.3	33.0	34.0
24	37.5	-	41.0	47.0	45.2	50.6	61.8	54.7	-	49.0	41.0	32.0
25	39.0	-	36.5	52.9	46.2	51.5	55.0	54.6	55.5	46.0	38.0	29.3
26	39.0	-	40.6	46.2	47.0	52.3	-	55.8	56.6	47.0	39.8	29.0
27	39.5	-	41.4	42.2	46.0	52.0	52.5	54.2	54.7	48.1	38.0	-
28	39.0	-	40.8	-	45.6	59.9	53.8	53.0	52.6	48.4	40.0	32.4
29	39.5		44.0	-	49.0	52.0	53.6	-	51.8	49.0	44.0	35.0
30	39.0		38.0	-	46.2	58.4	51.2	55.0	54.5	47.1	37.2	36.8
31	39.0		38.5		45.0		55.8	55.8		43.9		32.0
Mean	37.1	-	-	42.6	45.9	51.4	55.6	58.2	54.7	50.2	43.4	33.1

Portland Lightship (Figure 3, Table 3)

The Portland lightship region experienced winter temperatures which were slightly above normal in February and March, followed by rapid warming in April with readings well above the mean. Beginning in mid-April, when the thermocline was taking form, there was a sharp drop in salinities, both surface and bottom, and lower than usual salinities persisted till early June; during this time there appeared an intrusion of cold water, apparent throughout the water column, but most pronounced near the bottom, where minimum readings were comparable to those that had been found in late March. It is likely that this colder water came from the northeast, moved by the cynamic gradient which resulted from spring runoff and augmented by northerly and easterly winds which were dominant in late March and early April.

Summer surface values average slightly below the mean and below those for the previous year. Cooling was a little in advance of the mean throughout the autumn and early winter.

Salinity values were uniformly below those for 1957, a dry year, up until December, but closely paralleled those for 1956. The minimum values in May were below any recorded during the previous two years.

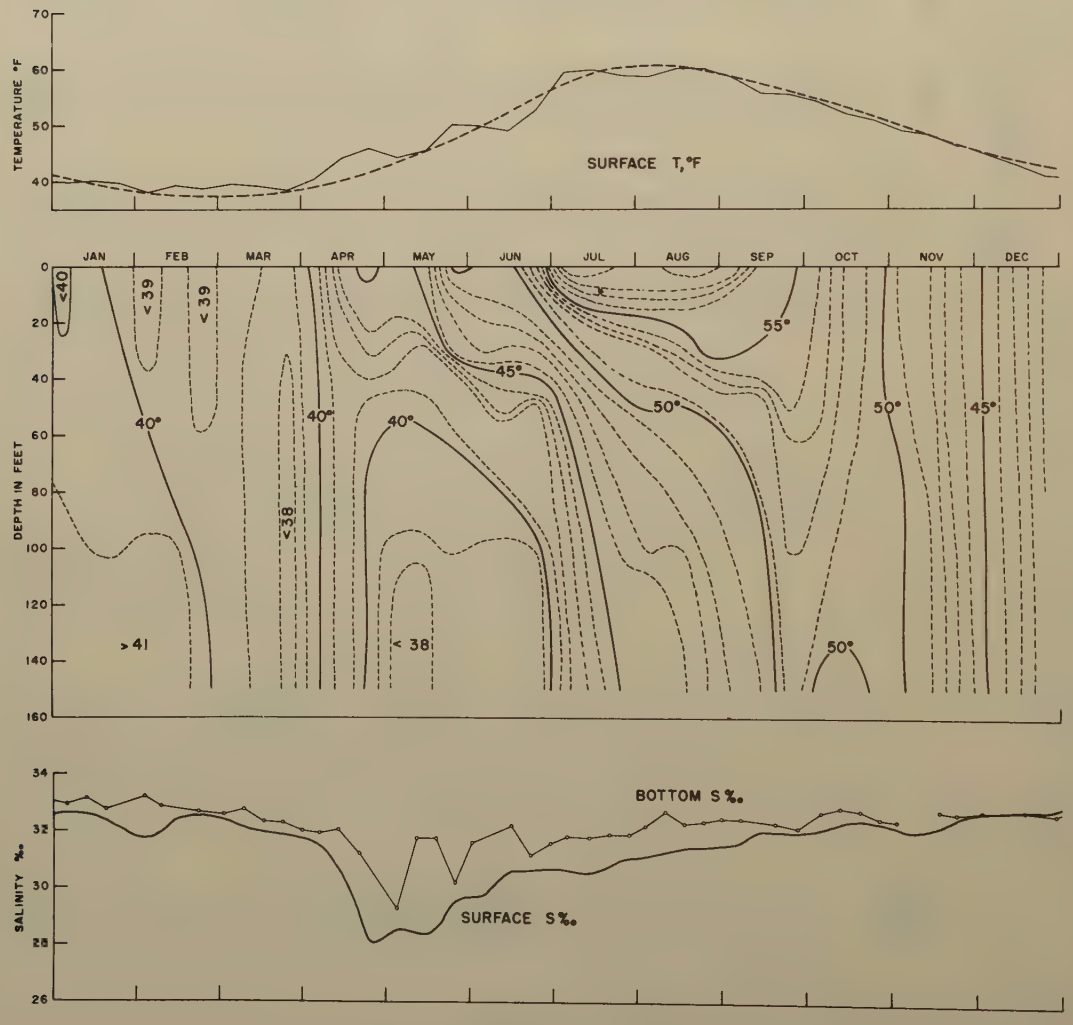

Figure 3. Portland Lightship, 1958. (Dashed line in upper diagram, mean for period 1947-1956)

Table 3

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

January 1958

Depth / Day	Temperature °F					Salinity °/oo	
	0'	30'	50'	100'	150'	0'	150'
1	40.0	40.0	40.1	40.9	-	32.33	-
2	40.1	40.2	40.7	41.8	-	.65	-
3	40.6	40.7	40.7	41.3	-	.81	-
4	39.9	40.1	40.1	41.1	-	.94	-
5	39.5	39.9	41.0	42.5	-	.40	32.94
6	39.9	40.0	40.3	43.0	-	.56	-
7	39.8	40.1	42.8	43.0	-	.62	-
8	40.7	40.9	41.0	41.0	41.1	.84	-
9	39.1	39.2	39.6	40.6	-	.52	-
10	39.5	39.2	40.2	40.9	-	.53	-
11	40.0	39.9	40.0	40.1	41.0	.72	-
12	39.3	39.5	39.5	39.8	-	.76	33.15
13	39.3	39.1	39.1	40.0	-	.72	-
14	39.2	39.2	39.2	39.5	-	32.76	-
15	-	-	-	-	-	-	-
16	41.5	41.5	41.7	42.0	42.2	32.73	-
17	41.5	41.6	41.6	41.7	41.8	.85	-
18	41.1	41.2	41.3	41.5	41.5	32.78	-
19	40.7	41.1	41.3	41.6	-	30.89	32.76
20	39.5	40.0	40.1	41.5	42.0	32.48	-
21	39.5	39.5	39.7	41.5	42.6	.15	-
22	-	-	-	-	-	.96	-
23	41.2	41.5	41.5	41.7	42.2	.62	-
24	39.8	39.6	39.6	40.5	41.5	32.30	-
25	39.3	39.4	39.5	39.8	40.7	31.93	-
26	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-
28	40.5	40.6	40.6	40.6	40.7	32.74	-
29	-	-	-	-	-	32.55	-
30	39.1	40.4	40.4	40.5	40.5	31.43	-
31	38.4	39.9	40.0	40.3	40.4	28.83	-
Mean	40.0	40.2	40.4	41.1	-	32.37	-

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

February 1958

Depth / Day	Temperature °F					Salinity °/oo	
	0'	30'	50'	100'	150'	0'	150'
1	38.4	39.6	39.8	39.9	40.6	31.11	-
2	38.9	38.9	39.9	40.8	41.8	.57	33.21
3	38.0	38.1	39.3	41.9	42.1	.55	-
4	37.5	38.0	39.4	41.0	41.9	.57	-
5	37.9	37.8	38.0	41.1	41.9	.71	-
6	37.0	37.4	38.7	41.0	42.0	.58	-
7	36.9	37.7	38.4	40.3	41.0	31.54	-
8	39.5	40.0	41.0	42.5	42.9	32.19	-
9	38.2	39.2	40.0	41.8	41.8	.20	32.88
10	38.8	38.8	39.8	42.8	-	.20	-
11	38.9	38.8	40.4	42.4	-	.16	-
12	39.0	39.0	39.0	42.3	42.3	.24	-
13	40.0	40.1	40.1	41.2	42.5	.30	-
14	40.1	40.2	40.3	42.4	43.0	.60	-
15	40.4	40.6	40.9	41.1	43.0	32.51	-
16	-	-	-	-	-	-	-
17	40.0	40.0	40.1	40.1	40.1	32.64	-
18	37.5	39.4	39.8	40.7	41.2	.29	-
19	38.5	38.5	38.7	40.8	41.8	.46	-
20	39.0	38.8	38.8	39.1	-	.49	-
21	38.5	38.7	38.9	38.9	41.0	.54	-
22	38.2	38.2	38.2	40.0	-	.37	-
23	38.0	38.1	38.1	39.9	41.0	.49	32.65
24	38.1	38.2	38.2	39.1	-	.59	-
25	38.8	38.8	38.8	39.1	39.8	.53	-
26	39.1	38.8	38.9	39.4	-	.55	-
27	39.2	39.2	39.3	39.5	39.5	.51	-
28	-	-	-	-	-	-	-
Mean	38.6	38.9	39.3	40.7	41.6	32.17	-

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

March 1958

	Temperature °F					Salinity °/oo	
Depth / Day	0'	30'	50'	100'	150'	0'	150'
1	39.1	39.3	39.5	39.9	39.9	32.39	-
2	39.2	39.0	39.0	39.0	39.0	.73	32.58
3	39.5	38.9	38.9	38.9	38.9	.60	-
4	39.5	39.3	39.2	39.3	39.3	.60	-
5	39.9	39.7	39.6	39.5	39.8	32.68	-
6	39.5	39.6	39.3	39.1	39.0	31.48	-
7	39.2	39.2	39.9	40.0	39.9	31.89	-
8	39.9	39.9	39.9	40.1	40.1	32.21	-
9	39.5	39.3	39.7	40.1	40.1	31.90	32.74
10	39.5	39.2	39.3	39.8	40.1	.77	-
11	39.8	39.2	39.3	39.8	40.1	31.64	-
12	-	-	-	-	-	30.80	-
13	39.7	39.1	38.9	38.9	38.8	31.36	-
14	-	-	-	-	-	31.98	-
15	-	-	-	-	-	-	-
16	39.2	38.9	38.9	38.9	38.9	32.46	32.31
17	37.9	37.9	37.9	37.9	37.9	.44	-
18	38.4	37.8	37.8	37.7	37.7	.59	-
19	39.6	37.9	37.9	38.1	38.1	.30	-
20	-	-	-	-	-	32.07	-
21	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-
23	38.3	38.3	37.8	37.8	37.8	31.64	32.28
24	39.0	37.9	38.0	38.1	38.1	.87	-
25	38.9	38.3	38.7	38.7	38.6	.70	-
26	38.0	37.8	37.7	37.2	37.0	31.77	-
27	37.2	37.3	37.3	37.2	37.2	32.24	-
28	39.0	38.3	38.2	38.2	38.1	.09	-
29	37.9	37.2	37.2	36.9	36.9	32.04	-
30	38.9	38.5	38.3	38.3	38.3	31.45	32.00
31	38.1	38.1	38.1	38.1	38.1	-	-
Mean	39.0	38.6	38.7	38.7	38.7	32.03	32.38

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

April 1958

Depth / Day	Temperature °F					Salinity °/oo	
	0'	30'	50'	100'	150'	0'	150'
1	38.8	38.5	38.5	38.3	-	31.86	-
2	-	-	-	-	-	32.00	-
3	38.1	38.1	38.1	38.1	-	32.00	-
4	39.2	38.2	38.2	38.2	-	31.94	-
5	39.4	38.4	38.4	38.0	-	31.99	-
6	39.0	38.1	38.1	37.9	37.9	30.99	31.90
7	-	-	-	-	-	31.50	-
8	41.9	42.0	42.0	42.0	42.0	31.50	-
9	42.8	42.8	42.2	42.2	-	30.83	-
10	43.7	42.9	42.0	42.0	-	.71	-
11	43.9	43.0	42.9	42.5	42.5	30.92	-
12	42.6	42.5	42.8	42.7	42.4	31.32	-
13	43.9	41.8	41.6	41.6	41.6	29.25	32.01
14	44.5	41.9	41.9	41.9	41.9	29.05	-
15	44.0	41.0	40.9	40.9	40.9	30.32	-
16	44.6	43.0	41.1	41.1	41.0	.16	-
17	44.5	43.3	42.1	41.1	41.1	.43	-
18	-	-	-	-	-	.64	-
19	45.0	42.0	40.2	39.8	39.5	.68	-
20	-	-	-	-	-	.77	31.25
21	45.2	41.0	40.1	40.1	40.1	30.34	-
22	44.8	44.3	41.8	41.0	41.1	29.88	-
23	-	-	-	-	-	30.50	-
24	44.8	42.1	40.6	39.7	39.7	30.49	-
25	47.0	41.9	39.8	39.2	39.2	26.08	-
26	47.0	44.6	40.0	39.7	39.8	.19	-
27	47.2	-	40.0	39.7	39.7	.55	-
28	46.2	44.2	40.1	39.6	39.5	26.60	-
29	45.3	44.8	40.7	39.5	39.5	27.03	-
30	45.1	41.6	39.6	39.3	39.3	26.75	-
Mean	43.5	41.8	40.5	40.2	-	29.98	-

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

May 1958

	Temperature °F					Salinity °/oo	
Depth / Day	0'	30'	50'	100'	150'	0'	150'
1	44.6	40.7	38.8	37.5	37.4	27.26	-
2	45.0	42.7	39.0	37.1	-	28.13	-
3	44.5	44.9	40.4	37.9	37.2	27.52	-
4	44.8	43.8	39.3	37.8	37.2	27.66	29.23
5	44.2	43.8	40.7	37.9	37.7	28.51	-
6	44.7	41.0	39.5	37.4	37.3	26.95	-
7	43.1	42.9	38.9	37.8	37.8	30.58	-
8	43.2	42.9	42.2	38.9	38.7	30.42	-
9	44.2	42.7	43.0	40.4	38.2	29.23	-
10	44.1	41.8	40.9	38.5	-	29.06	-
11	43.8	39.8	39.6	37.9	36.8	28.98	31.74
12	43.7	42.5	40.4	37.4	36.5	29.62	-
13	43.9	42.7	40.8	38.1	-	28.22	-
14	45.1	42.3	40.9	38.7	-	26.47	-
15	45.0	42.0	39.9	39.8	37.2	27.29	-
16	45.0	40.0	39.4	39.0	38.3	28.43	-
17	46.6	42.7	40.3	39.9	39.0	27.92	-
18	46.9	41.8	40.6	39.5	38.3	28.64	31.72
19	46.1	42.9	40.1	39.0	37.9	29.49	-
20	46.5	40.8	39.2	38.3	37.1	28.78	-
21	48.0	44.1	40.7	39.2	38.0	29.24	-
22	47.3	44.8	40.2	39.0	38.1	29.65	-
23	-	-	-	-	-	30.03	-
24	48.5	44.4	40.6	39.0	38.3	.03	-
25	49.0	46.2	40.8	39.2	38.8	30.01	30.16
26	49.0	45.2	41.2	39.9	39.3	29.94	-
27	51.1	50.0	41.9	39.9	39.1	.86	-
28	-	-	-	-	-	29.60	-
29	54.1	51.2	43.2	40.0	39.2	28.93	-
30	50.4	41.9	40.2	39.3	38.8	.96	-
31	54.0	49.6	43.6	40.1	39.2	28.73	-
Mean	46.4	43.5	40.6	38.8	38.1	28.84	30.71

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

June 1958

	Temperature °F					Salinity °/oo	
Depth / Day	0'	30'	50'	100'	150'	0'	150'
1	50.9	46.0	40.5	39.0	38.8	29.07	31.67
2	-	46.6	40.2	38.3	38.6	.16	-
3	49.2	42.3	38.3	37.7	37.2	.80	-
4	49.5	46.0	41.2	39.1	38.8	.87	-
5	51.8	47.9	42.6	38.2	38.1	.70	-
6	49.6	47.6	44.9	37.9	37.8	29.93	-
7	50.9	48.1	42.8	39.2	37.0	30.08	-
8	48.0	47.9	40.7	38.8	38.2	29.98	-
9	48.1	48.3	42.1	38.8	38.2	.97	-
10	49.9	49.0	42.4	39.2	38.8	29.88	-
11	50.1	48.0	42.1	39.3	-	30.08	-
12	52.1	48.9	43.8	39.3	38.7	30.07	-
13	51.9	48.3	42.9	39.0	38.5	29.98	-
14	48.1	48.1	47.7	38.7	37.9	30.50	-
15	45.0	44.6	42.8	38.7	37.9	31.28	32.19
16	46.9	44.9	42.8	38.8	37.8	30.93	-
17	48.4	44.2	42.1	38.1	37.8	.52	-
18	50.3	46.4	41.5	38.2	37.9	.65	-
19	47.9	46.9	44.8	38.7	37.9	.72	-
20	49.4	46.2	42.2	38.3	37.9	.80	-
21	52.2	44.0	40.6	39.1	37.5	.55	-
22	52.9	45.4	40.1	38.2	38.2	.60	31.12
23	52.8	47.5	43.9	38.9	38.9	.58	-
24	53.3	49.0	-	-	-	.49	-
25	-	-	-	-	-	.64	-
26	50.8	-	41.9	39.1	39.4	.91	-
27	50.8	46.8	41.3	39.1	38.8	.72	-
28	51.8	-	-	39.6	-	.82	-
29	54.9	51.2	42.3	39.0	38.8	.59	31.58
30	53.8	45.2	41.1	39.0	38.7	30.75	-
Mean	50.4	46.9	42.2	38.8	38.2	30.32	31.64

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

July 1958

Depth / Day	Temperature °F					Salinity °/oo	
	0'	30'	50'	100'	150'	0'	150'
1	56.2	45.0	42.9	39.0	39.0	30.61	-
2	56.9	46.1	43.8	41.9	40.9	.74	-
3	58.3	49.0	44.3	42.0	40.9	.53	-
4	59.8	49.3	46.6	42.2	41.2	.61	-
5	60.0	50.0	45.7	42.3	41.0	.74	-
6	59.6	50.0	46.7	42.7	41.7	.77	31.83
7	59.2	47.9	46.7	43.3	42.7	.62	-
8	61.7	51.1	46.9	43.8	43.2	30.73	-
9	61.6	53.8	46.4	44.1	43.2	-	-
10	60.8	50.0	47.5	44.8	44.5	30.27	-
11	60.7	49.7	46.0	44.4	43.5	.39	-
12	61.3	55.0	50.0	46.1	44.2	.31	-
13	61.4	53.5	49.3	45.2	44.9	.41	31.77
14	58.5	52.0	48.1	44.7	43.5	.53	-
15	60.4	51.9	48.2	45.2	43.0	.58	-
16	65.0	50.5	47.7	45.0	44.5	.39	-
17	60.8	48.1	46.2	44.2	42.7	.59	-
18	56.8	51.2	48.8	44.6	43.0	.82	-
19	56.0	47.5	46.2	45.0	42.8	.91	-
20	56.2	51.0	48.7	44.9	42.2	.97	31.88
21	56.8	52.3	50.0	44.6	42.3	.95	-
22	58.2	48.4	47.3	45.2	43.8	.77	-
23	60.0	52.2	47.1	45.6	43.9	.85	-
24	60.1	48.2	47.1	44.9	44.5	.64	-
25	62.2	51.0	48.8	46.4	45.0	.70	-
26	58.1	50.3	48.7	45.7	44.8	30.46	-
27	58.7	57.6	50.9	47.0	46.8	31.38	31.89
28	56.9	51.1	49.5	47.6	46.7	.48	-
29	58.1	53.4	49.2	47.3	46.9	31.63	-
30	58.8	51.9	50.6	47.7	45.7	31.02	-
31	58.2	53.2	49.1	47.1	46.2	31.25	-
Mean	59.3	50.7	47.6	44.7	43.5	30.76	31.84

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

August 1958

Depth / Day	Temperature °F 0'	30'	50'	100'	150'	Salinity °/oo 0'	150'
1	58.8	52.7	50.8	47.1	45.6	31.06	-
2	60.0	53.0	50.2	47.6	45.2	30.75	-
3	59.0	52.1	50.0	48.2	46.0	31.01	32.21
4	58.2	52.0	50.9	47.9	44.9	31.15	-
5	59.5	51.8	50.2	47.7	44.9	.35	-
6	57.5	52.3	50.7	47.7	45.7	.11	-
7	59.1	52.2	51.2	46.6	45.1	.44	-
8	58.9	51.0	50.6	46.9	45.3	.14	-
9	58.0	-	50.0	46.7	45.8	.31	-
10	56.2	50.2	48.8	45.9	45.0	.49	32.72
11	59.3	54.2	51.1	47.3	45.7	.45	-
12	60.6	52.0	49.0	45.7	44.9	.43	-
13	59.0	52.0	48.9	46.8	44.9	.29	-
14	61.7	56.0	49.1	47.0	45.0	.25	-
15	59.0	53.0	48.5	46.0	45.2	.37	-
16	60.9	56.0	50.5	46.2	45.7	.40	-
17	62.1	55.3	50.8	46.8	45.9	.37	32.30
18	60.2	52.1	50.6	47.1	45.2	.38	-
19	58.2	50.3	48.7	48.0	47.0	.63	-
20	58.1	55.1	50.0	-	-	.41	-
21	56.2	50.9	49.6	47.2	45.2	.53	-
22	57.1	54.2	50.9	47.1	45.2	.60	-
23	58.2	52.8	50.1	47.5	46.2	.61	-
24	61.2	56.6	52.6	48.1	47.2	.41	32.38
25	58.3	57.2	51.1	48.1	47.8	.67	-
26	60.2	57.3	54.2	48.7	47.7	.38	-
27	61.3	57.1	52.4	48.9	47.9	.25	-
28	61.4	56.0	51.2	49.2	47.9	.29	-
29	62.8	61.1	54.1	48.9	48.0	.48	-
30	63.1	53.3	51.8	48.8	47.9	.55	-
31	59.3	53.7	48.8	48.2	45.6	31.36	32.50
Mean	59.5	53.8	50.6	47.6	46.0	31.35	32.42

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

September 1958

Depth / Day	Temperature °F					Salinity °/oo	
	0'	30'	50'	100'	150'	0'	150'
1	57.8	54.9	51.7	48.2	45.8	31.60	-
2	58.9	56.4	50.8	48.2	45.9	.60	-
3	61.3	57.4	53.2	48.3	46.9	.64	-
4	54.1	54.1	54.2	53.9	52.8	31.54	-
5	59.4	56.1	52.2	48.9	48.2	-	-
6	60.3	57.1	52.5	49.1	48.6	31.47	-
7	57.3	56.5	51.2	48.9	48.2	.62	32.47
8	57.8	54.8	50.8	49.6	48.9	.59	-
9	58.4	51.8	50.2	49.1	-	.57	-
10	56.2	55.7	52.2	49.6	48.5	.76	-
11	55.2	53.2	50.2	48.6	47.3	.90	-
12	55.1	54.8	50.1	48.2	47.7	.88	-
13	55.2	54.6	50.7	48.7	47.9	.98	-
14	56.1	54.2	49.7	48.3	-	.91	-
15	56.2	55.4	50.1	48.9	47.9	31.88	-
16	-	-	-	-	-	32.00	-
17	-	-	-	-	-	31.99	-
18	-	-	-	-	-	31.92	-
19	55.6	55.8	55.9	54.3	51.6	32.52	-
20	54.9	54.1	53.6	52.4	51.1	.57	32.30
21	54.4	53.9	53.9	53.7	52.3	32.30	-
22	55.1	54.2	54.1	54.0	52.5	31.83	-
23	55.3	54.0	53.9	53.3	52.5	32.03	-
24	55.4	54.1	53.9	54.0	52.8	31.81	-
25	55.3	53.7	53.6	52.3	-	32.00	-
26	55.9	55.3	53.5	52.3	50.8	32.04	-
27	55.6	54.1	52.8	51.7	51.2	31.82	32.15
28	55.0	55.1	54.8	51.7	50.0	.91	-
29	55.3	55.2	55.3	52.3	51.2	31.91	-
30	55.2	55.1	55.2	52.2	-	-	-
Mean	56.4	54.9	52.6	50.8	49.6	31.88	-

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

October 1958

	Temperature °F					Salinity °/oo	
Depth / Day	0'	30'	50'	100'	150'	0'	150'
1	55.4	55.5	55.3	52.0	50.0	31.99	-
2	55.0	54.5	54.4	51.0	-	.83	-
3	-	-	-	-	-	.70	-
4	54.7	54.8	53.8	51.9	-	.67	-
5	-	-	-	-	-	31.85	32.65
6	53.1	53.0	53.0	52.3	49.8	32.00	-
7	54.0	53.8	53.6	50.0	49.1	.28	-
8	53.0	52.7	52.0	50.7	49.0	.47	-
9	53.9	52.6	52.7	50.9	49.2	.26	-
10	54.4	53.8	53.8	51.4	49.9	.22	-
11	53.9	53.9	53.5	51.3	49.5	.31	-
12	52.1	52.0	51.9	50.0	48.7	.34	32.82
13	51.0	50.7	50.5	50.0	48.7	.58	-
14	-	-	-	-	-	.36	-
15	51.8	51.4	51.5	51.0	47.9	.49	-
16	-	-	-	-	-	.17	-
17	52.2	52.1	51.7	50.1	48.5	.25	-
18	51.8	51.7	51.3	50.7	49.0	.38	-
19	51.2	51.1	51.1	50.0	49.4	.36	32.73
20	51.5	51.5	51.5	51.3	49.5	.50	-
21	51.7	51.5	51.2	50.6	49.5	.45	-
22	51.7	51.5	51.7	51.3	49.8	.41	-
23	-	-	-	-	-	.46	-
24	-	-	-	-	-	.43	-
25	-	-	-	-	-	.30	-
26	-	-	-	-	-	.33	32.46
27	50.5	50.5	50.5	50.5	50.6	.57	-
28	-	-	-	-	-	.91	-
29	-	-	-	-	-	.54	-
30	50.5	50.2	50.3	50.5	50.5	32.00	-
31	50.0	50.0	50.3	50.6	50.6	31.77	-
Mean	-	-	-	-	-	32.26	32.66

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

November 1958

Depth / Day	Temperature °F 0'	30'	50'	100'	150'	Salinity °/oo 0'	150'
1	49.3	49.7	49.6	50.1	50.1	32.55	-
2	49.2	49.3	49.7	50.0	50.0	.19	32.39
3	48.1	48.7	48.8	50.1	50.1	32.07	-
4	48.8	48.9	49.0	49.9	50.1	31.73	-
5	48.1	48.8	48.9	50.8	50.8	31.92	-
6	49.3	49.3	49.8	50.1	50.1	32.20	-
7	49.2	49.1	49.7	50.0	50.0	31.97	-
8	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
10	48.2	48.2	48.2	49.1	49.2	32.09	-
11	-	-	-	-	-	-	-
12	48.1	48.3	48.4	49.1	49.1	32.13	-
13	48.0	48.1	48.5	49.1	49.1	.07	-
14	48.0	48.0	48.5	49.2	49.2	.04	-
15	48.2	48.2	49.1	49.1	49.1	32.09	-
16	-	-	-	-	-	-	-
17	48.0	48.0	48.1	48.9	49.1	32.09	32.73
18	48.0	48.1	48.2	49.0	49.0	.19	-
19	47.9	47.9	48.0	48.7	48.9	.21	-
20	47.7	47.8	47.8	48.5	48.8	.10	-
21	47.8	47.8	48.2	48.8	48.8	.15	-
22	46.3	46.3	46.6	47.1	47.1	.54	-
23	45.9	45.9	46.0	46.2	46.8	.50	32.67
24	46.0	46.0	46.1	46.9	46.9	.44	-
25	46.0	46.1	46.1	46.2	46.3	32.66	-
26	-	-	-	-	-	-	-
27	45.2	45.4	45.3	45.4	46.5	33.16	-
28	45.0	45.0	45.0	45.5	46.0	32.47	-
29	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-
Mean	47.7	47.8	48.0	48.6	48.7	32.24	-

Table 3 (Cont'd)

PORTLAND LIGHTSHIP 43°31.6'N. 70°05.5'W. Depth of water - 150 feet

December 1958

Depth / Day	Temperature °F					Salinity °/oo	
	0'	30'	50'	100'	150'	0'	150'
1	45.3	45.7	45.7	45.9	45.9	32.66	-
2	45.0	45.0	45.2	45.8	46.0	.60	32.77
3	44.8	44.9	45.0	45.1	45.1	.60	-
4	44.8	44.8	44.8	44.9	44.9	.94	-
5	44.8	44.8	44.8	44.8	44.8	32.65	-
6	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
8	44.9	44.9	44.9	45.0	45.0	32.78	-
9	43.4	43.4	43.4	43.6	43.6	.68	-
10	44.1	44.1	44.1	44.1	44.1	.74	32.76
11	42.3	42.6	42.8	42.9	43.1	.64	-
12	43.1	43.2	43.4	43.4	43.6	.75	-
13	42.9	43.0	43.1	43.1	43.1	.73	-
14	43.6	43.6	43.7	43.6	43.2	.78	-
15	43.7	43.7	43.8	43.9	43.8	.79	-
16	41.9	42.1	42.6	43.2	43.7	.52	-
17	42.1	42.1	42.5	42.8	43.9	.55	32.78
18	42.5	42.5	42.6	42.6	43.3	.64	-
19	41.8	41.9	41.9	42.9	43.6	.71	-
20	42.9	42.9	43.1	43.2	43.5	.97	-
21	41.9	41.9	41.9	42.9	43.2	32.86	-
22	-	-	-	-	-	-	-
23	41.8	40.9	40.9	41.9	42.2	32.76	-
24	40.6	40.2	40.8	41.8	43.0	.79	-
25	-	-	-	-	-	.79	-
26	41.1	41.1	41.1	41.1	41.2	32.84	-
27	41.4	41.1	41.2	41.3	41.4	-	-
28	38.7	38.8	38.8	39.3	40.1	32.65	32.64
29	40.2	40.2	40.3	40.3	40.5	.81	-
30	40.2	40.2	40.3	40.5	40.7	.70	-
31	41.0	41.2	41.2	41.3	41.3	32.87	-
Mean	42.6	42.6	42.7	43.0	43.3	32.73	32.74

Boston Lightship (Figure 4, Table 4)

The record at Boston Lightship, in contrast to that for the previous two years, is disappointing in that it is incomplete because of failure to lower the bathythermograph to the bottom. There are indications, however, that the temperature regime here closely parallels that observed at Portland. That is, winter values were above the mean while summer readings averaged below normal. Though the essential record of bottom temperature is missing almost completely, what data there are hint at a cold intrusion during June, at least, similar to the one seen at Portland.

The surface maximum appeared abruptly early in August and was lower than the maxima for the previous two years. The autumn overturn occurred in October. From mid-November to year's end temperatures remained slightly above the mean.

The pattern of salinity closely paralleled that seen at Portland. From February through November readings were consistently lower than those for 1957, but very similar to the 1956 record except for the low surface values which appeared in May. These were lower than any seen during the two previous years.

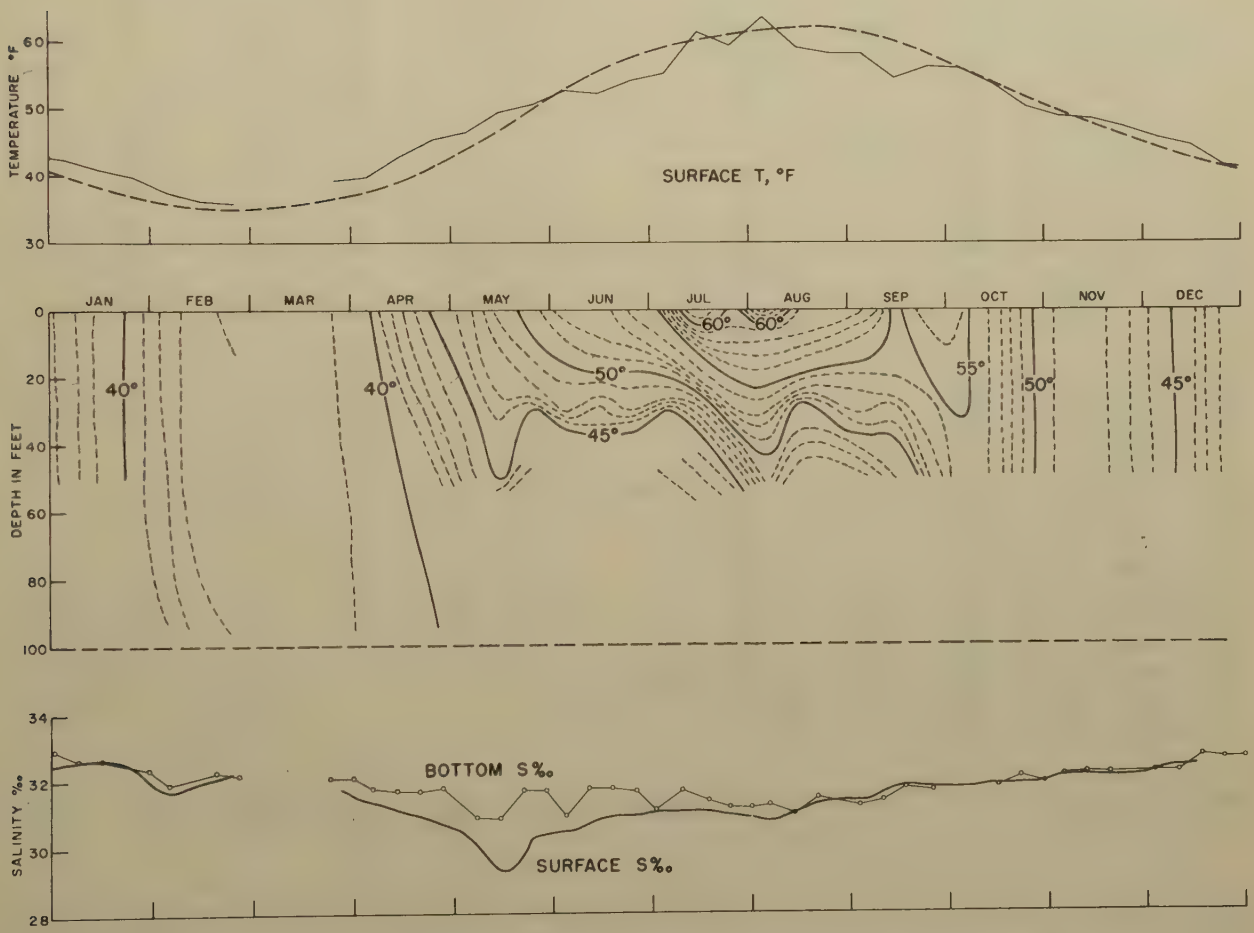

Figure 4. Boston Lightship, 1958. (Dashed line in upper diagram, mean for period 1925-1941)

Table 4

BOSTON LIGHTSHIP 42°20.4'N. 70°45.5'W. Depth of water - 96 feet

1958

	January						February					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	43.6	43.8	43.9	45.8	32.39	32.92	35.3	36.0	36.8	37.5	31.19	-
2	43.0	43.3	43.4	45.4	.36	-	38.4	38.7	39.5	40.0	.21	-
3	43.4	43.5	43.6	-	.44	-	37.5	37.6	38.7	39.3	.39	-
4	43.1	43.1	43.2	44.4	.49	-	38.2	38.4	38.7	40.2	.99	-
5	42.7	42.8	42.9	43.1	.58	-	37.4	37.5	37.7	37.9	.64	31.90
6	42.4	42.3	42.4	42.7	.60	-	37.0	37.2	37.5	38.9	.57	-
7	41.0	41.2	42.6	-	.58	-	37.2	37.3	37.6	39.3	31.57	-
8	41.1	41.1	41.2	-	.61	32.62	38.7	38.8	38.8	39.1	32.10	-
9	42.2	42.4	42.5	42.3	.66	-	37.1	37.1	37.1	38.7	31.88	-
10	41.8	41.9	41.9	-	.62	-	36.9	36.9	37.1	38.6	.86	-
11	42.0	42.0	42.0	-	.66	-	36.2	36.2	36.3	38.2	.81	-
12	40.6	40.8	40.8	-	.61	-	36.8	36.8	36.8	38.5	.82	32.02
13	40.1	40.1	40.1	-	.64	-	36.5	36.5	36.7	38.9	.84	-
14	39.9	39.9	39.9	-	32.61	-	35.9	36.0	36.1	36.1	31.97	-
15	-	-	-	-	-	-	36.6	36.7	36.8	36.8	32.00	-
16	41.1	41.1	41.1	-	32.64	32.63	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	32.05	-
18	41.7	41.8	41.8	-	32.69	-	36.0	36.1	36.2	36.5	.07	-
19	40.6	40.7	40.5	-	.61	-	36.1	36.2	36.3	36.6	.17	32.26
20	40.1	40.2	40.2	-	.59	-	34.9	35.0	35.1	-	.10	-
21	40.2	40.2	-	-	.64	-	36.2	36.6	36.9	37.2	.11	-
22	39.4	39.0	39.3	-	.42	32.48	36.5	36.2	36.2	36.8	.15	-
23	40.2	40.0	40.0	-	.54	-	-	37.0	37.1	-	.17	-
24	40.2	40.1	-	-	.62	-	-	-	-	-	.19	-
25	40.0	40.1	40.1	-	.61	-	35.0	35.2	-	-	.09	-
26	40.8	40.6	40.4	-	.56	-	36.0	35.9	36.1	36.7	.17	32.17
27	39.2	39.3	39.5	39.8	.34	-	35.9	36.0	36.1	37.0	32.26	-
28	40.1	40.1	40.1	40.1	.50	-	-	-	-	-	-	-
29	39.3	39.3	39.3	39.6	.27	32.34						
30	39.0	38.8	38.9	39.1	32.13	-						
31	39.5	39.2	39.2	-	31.59	-						
Mean	41.0	41.0	41.1	-	32.50	32.60	36.6	36.7	37.1	38.0	31.90	32.09

Table 4 (Cont'd)

BOSTON LIGHTSHIP 42°20.4'N. 70°45.5'W. Depth of water - 96 feet

1958

Depth Day	March Temperature °F 0'	30'	50'	95'	March Salinity °/oo 0'	95'	April Temperature °F 0'	30'	50'	95'	April Salinity °/oo 0'	95'
1					32.24	-	-	-	-	-	-	-
2					32.26	-	-	-	-	-	-	-
3					31.81	-	-	-	-	-	-	-
4					32.06	-	39.0	39.1	39.0	39.0	31.53	-
5					.26	32.39	40.0	39.1	39.0	39.0	30.71	-
6					32.10	-	40.1	39.6	39.2	39.2	31.38	31.74
7					31.90	-	39.9	39.9	39.9	-	-	-
8					.82	-	38.3	38.5	38.2	-	-	-
9					.83	-	39.8	39.8	39.8	-	31.64	-
10					.92	-	41.0	40.0	39.8	39.8	31.50	-
11					31.93	-	-	-	-	-	-	-
12					32.02	32.20	-	-	-	-	-	-
13					31.84	-	40.9	39.9	39.9	39.9	31.43	31.67
14					-	-	41.1	40.1	-	-	.30	-
15					-	-	42.6	40.4	40.0	-	31.18	-
16					32.05	-	43.1	40.6	39.9	-	30.81	-
17					.04	-	44.5	40.1	40.1	-	30.66	-
18	38.1	37.8	37.8	38.5	.10	-	44.6	42.5	40.0	-	31.52	-
19	39.0	38.6	38.0	38.0	32.09	-	-	-	-	-	30.68	-
20	-	-	-	-	-	-	-	-	-	-	.56	31.65
21	-	-	-	-	-	-	46.0	41.7	40.1	39.9	.47	-
22	38.1	38.1	38.1	-	32.07	-	45.3	40.7	-	-	.67	-
23	38.2	38.2	38.2	38.2	32.10	32.08	45.3	43.2	39.9	39.9	.62	-
24	38.8	38.4	38.3	38.3	31.94	-	46.0	42.5	40.2	39.9	30.70	-
25	39.8	39.0	38.9	38.9	.75	-	-	-	-	-	-	-
26	39.2	39.2	39.2	38.8	31.88	-	-	-	-	-	-	-
27	-	-	-	-	-	-	45.0	44.0	41.2	39.8	31.08	31.76
28	38.9	39.0	39.1	39.2	31.75	-	-	-	-	-	-	-
29	39.6	39.4	39.2	39.0	.60	-	44.9	43.9	40.3	40.1	30.73	-
30	39.1	39.0	39.0	39.0	.46	32.08	45.1	43.9	43.6	40.0	30.77	-
31	40.1	39.6	39.1	-	31.15	-						
Mean	-	-	-	-	31.92	32.19	42.6	41.0	40.0	-	31.00	31.70

Table 4 (Cont'd)

BOSTON LIGHTSHIP 42°20.4'N. 70°45.5'W. Depth of water - 96 feet

1958

	May						June					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	45.7	42.9	40.8	40.2	-	-	52.0	51.1	-	-	30.25	-
2	46.8	44.9	41.1	40.2	-	-	52.2	-	-	-	.24	-
3	-	-	-	-	-	-	52.4	48.8	-	-	.26	-
4	46.7	42.4	-	-	30.43	-	53.1	49.4	43.0	-	.29	30.91
5	-	-	-	-	.42	-	53.1	49.3	-	-	.43	-
6	47.6	46.3	45.7	-	30.23	-	53.2	46.0	43.0	-	.52	-
7	-	-	-	-	29.70	30.88	52.4	47.0	-	-	.62	-
8	45.2	45.2	45.2	-	30.08	-	52.9	52.0	-	-	.68	-
9	46.2	45.0	44.8	43.2	29.63	-	52.1	47.3	42.1	-	.70	-
10	46.1	45.9	45.7	-	.22	-	52.1	46.9	-	-	.75	-
11	-	-	-	-	.07	-	52.6	43.8	41.0	-	.69	31.71
12	47.8	47.2	45.9	43.5	.05	-	51.5	43.6	41.4	-	.85	-
13	48.8	47.7	45.2	43.3	.42	-	-	-	-	-	.88	-
14	49.6	48.2	48.0	44.5	.33	30.84	51.7	43.1	40.1	-	.91	-
15	49.7	47.4	44.9	43.5	.11	-	50.3	39.1	-	-	.81	-
16	-	-	-	-	.11	-	52.1	51.3	-	-	.90	-
17	49.7	47.1	45.0	-	.20	-	53.1	48.8	41.8	-	.79	-
18	-	-	-	-	.31	-	53.9	52.2	42.1	-	.71	31.73
19	50.1	45.4	43.9	-	.29	-	52.1	49.4	-	-	.91	-
20	50.0	45.4	42.6	-	.86	-	52.8	47.3	42.1	-	.83	-
21	49.0	43.9	43.0	-	.95	31.69	52.1	47.5	-	-	.83	-
22	-	-	-	-	29.97	-	52.1	44.9	-	-	.89	-
23	49.3	43.0	41.2	40.7	30.25	-	-	-	-	-	.90	-
24	-	-	-	-	.35	-	54.3	47.0	-	-	.85	-
25	49.9	43.2	-	-	.50	-	53.5	45.9	44.5	-	30.85	31.64
26	49.7	43.1	41.6	41.3	.48	-	52.9	50.1	-	-	31.00	-
27	51.0	43.2	-	-	.49	-	56.7	49.1	44.7	-	30.82	-
28	50.6	46.1	41.5	41.2	.48	31.64	56.3	53.0	-	-	.93	-
29	51.7	47.5	42.3	41.1	.50	-	57.0	48.6	42.7	-	30.90	-
30	51.1	46.4	41.3	40.9	.50	-	51.8	47.9	43.3	-	31.07	-
31	52.5	46.4	43.6	-	30.19	-						
Mean	48.9	45.4	43.7	-	29.86	31.26	52.9	47.8	-	-	30.74	31.50

Table 4 (Cont'd)

BOSTON LIGHTSHIP 42°20.4'N. 70°45.5'W. Depth of water - 96 feet

1958

	July						August					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	53.3	45.1	42.9	-	30.94	31.08	62.1	51.6	-	-	30.44	-
2	54.1	43.7	-	-	31.57	-	62.1	57.0	-	-	.59	-
3	54.6	44.7	41.8	-	.01	-	62.3	53.4	49.5	-	.37	-
4	55.7	44.9	-	-	.01	-	63.3	54.1	-	-	.73	-
5	53.9	44.1	-	-	.01	-	64.1	56.1	50.9	-	.38	-
6	56.1	45.9	41.2	-	.03	-	64.8	55.1	50.9	-	.80	31.20
7	52.5	42.6	41.9	-	.08	-	65.6	56.0	-	-	30.93	-
8	55.8	45.1	41.9	-	.03	-	63.2	53.2	-	-	31.00	-
9	59.7	48.7	-	-	.01	31.69	63.1	51.2	48.8	-	30.94	-
10	55.0	45.0	42.0	-	.04	-	64.7	48.4	46.9	-	30.95	-
11	61.0	48.5	-	-	31.05	-	65.1	50.3	44.9	-	31.02	-
12	63.1	46.0	-	-	30.97	-	63.1	48.5	44.9	-	30.94	-
13	64.7	46.0	42.4	-	.96	-	58.8	49.1	47.9	-	.95	30.96
14	63.1	44.3	-	-	.98	-	56.9	49.8	47.1	-	.94	-
15	59.6	46.2	42.6	-	.95	-	60.1	48.8	47.6	-	30.93	-
16	59.9	47.2	43.0	-	.95	-	57.6	49.0	-	-	31.08	-
17	65.1	53.0	43.1	-	30.94	31.37	60.1	49.6	47.3	-	.04	-
18	58.6	48.6	43.6	-	31.08	-	54.1	47.9	-	-	.14	-
19	58.9	47.9	42.9	-	.08	-	56.1	51.2	-	-	.17	-
20	58.9	49.3	43.2	-	.08	-	58.3	50.6	45.1	-	.24	31.43
21	57.6	50.9	-	-	.03	-	56.3	45.7	44.9	-	.30	-
22	57.7	51.1	-	-	31.03	-	59.0	53.2	45.1	-	.38	-
23	57.9	55.9	43.8	-	30.83	31.18	59.1	48.1	45.1	-	.46	-
24	61.1	54.6	46.2	-	31.01	-	60.1	55.2	48.3	-	.42	-
25	58.7	47.8	42.6	-	.00	-	55.2	48.0	48.0	-	.32	-
26	59.1	57.8	45.3	-	.00	-	55.8	47.6	46.1	-	.36	-
27	58.9	57.3	-	-	.08	-	55.7	47.5	-	-	.38	-
28	59.9	56.7	-	-	31.00	-	58.1	48.5	46.6	-	31.40	-
29	59.9	50.0	47.6	-	30.88	-	-	-	-	-	-	-
30	62.1	50.6	44.6	-	.83	31.16	60.0	57.6	50.1	-	31.14	-
31	59.1	50.6	44.8	-	30.66	-	61.7	51.6	46.9	-	31.24	-
Mean	58.6	48.7	43.4	-	31.00	31.30	58.4	51.1	47.3	-	31.03	31.20

Table 4 (Cont'd)

BOSTON LIGHTSHIP 42°20.4'N. 70°45.5'W. Depth of water - 96 feet

1958

	September						October					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	60.7	51.6	46.7	-	-	-	-	-	-	-	-	-
2	59.9	51.3	-	-	31.30	-	56.9	56.8	-	-	31.53	-
3	59.9	55.4	-	-	.21	31.23	57.1	56.9	-	-	.78	-
4	59.6	57.2	-	-	31.31	-	56.4	56.6	56.1	-	.71	-
5	58.1	55.1	-	-	-	-	56.6	56.4	55.8	-	.35	-
6	58.1	-	-	-	31.31	-	56.3	56.0	56.0	-	.79	-
7	59.7	55.1	46.4	-	.34	-	55.2	55.1	54.7	-	.70	-
8	58.9	50.7	45.4	-	.35	-	54.9	54.1	52.6	-	.79	-
9	53.1	48.0	45.6	44.9	.80	-	55.0	54.6	53.7	-	.84	-
10	53.6	46.3	-	-	.50	31.37	56.0	55.7	53.9	50.9	.84	-
11	51.8	-	-	-	.64	-	53.7	53.7	53.8	51.0	.56	-
12	53.8	50.1	47.3	-	.80	-	53.8	53.8	53.8	51.0	.86	-
13	55.6	54.5	-	-	.80	-	53.9	53.9	53.9	49.9	.84	-
14	54.4	48.3	-	-	.82	-	53.9	53.4	53.0	-	.88	-
15	52.7	47.9	-	-	.93	-	-	-	-	-	.84	31.78
16	55.1	48.3	46.5	-	.84		53.2	53.0	53.1	-	.85	-
17	56.1	54.5	-	-	.71	31.75	53.4	53.5	53.2	48.8	.84	-
18	55.4	52.9	-	-	31.61	-	54.0	53.9	53.4	48.8	.78	-
19	-	-	-	-	-	-	53.9	53.4	53.2	48.8	31.82	-
20	55.9	54.4	53.6	-	31.78	-	-	-	-	-	-	-
21	55.9	54.3	-	-	31.75	-	52.7	52.9	52.9	50.2	31.76	-
22	57.0	52.9	52.0	-	-	-	52.7	52.7	52.4	49.9	.84	32.02
23	57.0	-	-	-	31.54	-	50.1	50.1	50.1	-	31.83	-
24	56.6	52.9	-	-	.90	31.66	-	-	-	-	-	-
25	56.7	53.7	52.6	-	.53	-	-	-	-	-	-	-
26	55.8	52.7	51.7	-	31.65	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	49.0	49.1	49.5	49.4	31.78	-
29	55.3	55.1	-	-	31.80	-	49.2	49.3	49.4	-	.73	31.88
30	55.1	55.0	54.9	-	31.70	-	49.0	49.0	48.8	-	.86	-
31							48.6	48.6	-	-	31.87	-
Mean	56.4	52.4	-	-	31.61	31.50	53.6	53.4	53.0	-	31.77	-

Table 4 (Cont'd)

BOSTON LIGHTSHIP 42°20.4'N. 70°45.5'W. Depth of water - 96 feet

1958

	November						December					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	47.2	47.2	47.3	-	31.94	-	44.9	44.9	-	-	32.15	-
2	49.9	49.8	49.8	-	32.00	-	46.0	46.0	-	-	.17	-
3	-	-	-	-	-	-	45.6	45.6	-	-	.23	32.17
4	49.1	48.5	-	-	32.11	-	-	-	-	-	-	-
5	48.9	49.0	49.1	-	.08	32.09	44.6	44.5	-	-	32.03	-
6	48.6	48.7	48.8	-	.09	-	-	-	-	-	-	-
7	48.9	48.9	48.9	-	.12	-	-	-	-	-	-	-
8	48.9	48.9	48.9	-	.08	-	44.9	44.9	44.9	-	32.24	-
9	48.9	48.3	48.6	-	.09	-	46.0	46.9	46.9	46.9	.24	-
10	48.1	48.1	48.4	-	32.04	-	45.6	46.1	46.1	46.1	.24	32.17
11	-	-	-	-	-	-	46.0	46.0	46.0	46.0	32.29	-
12	-	-	-	-	32.11	32.14	-	-	-	-	-	-
13	48.8	48.7	48.6	48.6	.11	-	44.0	45.1	45.1	45.0	32.28	-
14	48.2	48.4	48.7	48.7	32.03	-	45.2	44.9	44.9	44.8	32.30	-
15	48.4	48.5	48.7	48.6	31.75	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	48.3	48.3	48.5	48.7	32.04	-	43.0	43.0	-	-	32.38	32.66
18	48.1	48.1	48.3	-	.04	-	44.0	44.0	-	-	.40	-
19	48.6	48.2	48.6	-	.02	32.12	44.5	44.2	-	-	.52	-
20	48.1	48.3	48.3	-	.02	-	44.0	44.0	-	-	32.38	-
21	48.3	48.2	48.4	-	.02	-	42.3	42.5	-	-	-	-
22	48.3	48.2	48.4	-	32.02	-	41.0	41.0	41.0	41.2	32.37	-
23	47.1	47.2	47.4	-	31.88	-	41.0	41.0	41.2	41.2	32.56	-
24	47.1	47.2	47.6	-	.89	-	41.0	41.0	41.0	41.2	30.22	32.56
25	44.2	44.6	45.0	45.1	31.88	-	40.9	40.9	41.0	41.2	-	-
26	-	-	-	-	-	-	40.9	40.9	41.1	41.2	-	-
27	47.9	47.7	47.6	-	32.12	-	-	-	-	-	-	-
28	46.6	46.8	46.8	-	.13	-	-	-	-	-	-	-
29	47.0	46.9	47.0	-	32.12	-	41.0	41.9	41.9	42.0	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-
31							41.3	41.9	41.9	-	32.62	32.56
Mean	48.1	48.0	48.2	-	32.03	-	43.5	43.7	-	-	-	32.42

Georges Shoal, Texas Tower #2
(Figure 5, Table 5)

The winter minimum in early March on Georges Shoals was 40° F. and agreed with that for 1957, though January and February were warmer than in 1957. Warming was well behind 1956 and 1957 through July; during August temperatures made an abrupt recovery, reaching a maximum of 61° F. toward the end of the month. This maximum was greater than that for 1956 by 0.8° F. and less than the 1957 high by 3.2° F., and occurred some three weeks earlier than either. At the end of the year cooling was rapid. From May through December temperatures were consistently lower than those for 1957. In terms of annual means, 49.3° F. for 1958 was colder by 2.1° than was 1957.

Surface water sampling was resumed in August. Ten day mean values were close to 32.0 o/oo through October; November and December showed a gradual rise in salinities to 32.9 o/oo at year's end. Where comparison is possible with the spotty 1956 record, the 1958 values appear slightly lower.

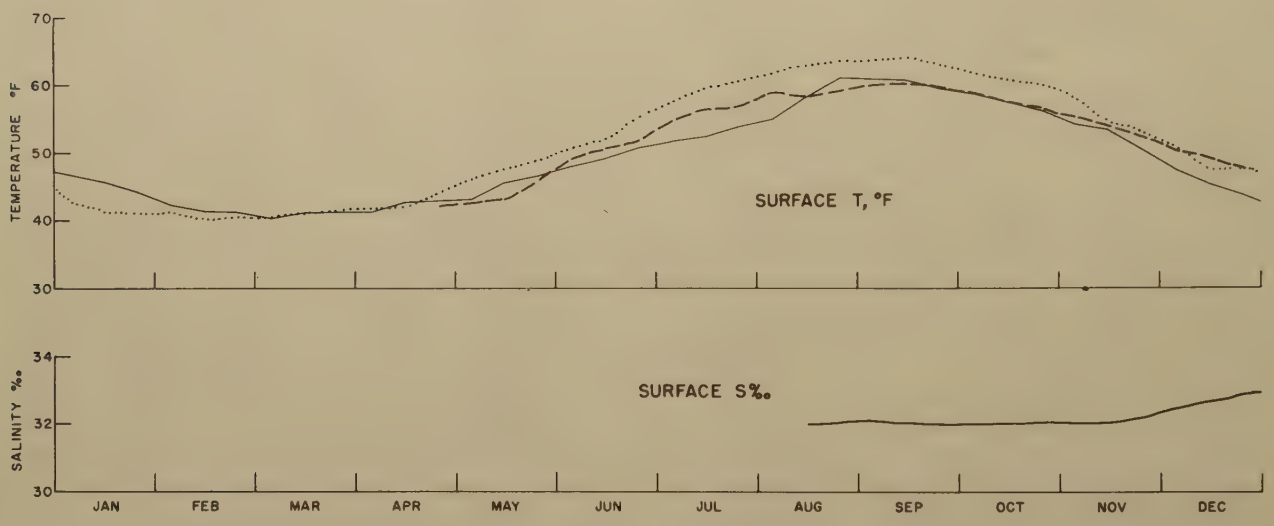

Figure 5. Georges Shoal, Texas Tower #2, 1958 (solid line). (Dashed line, 1956; dotted line, 1957)

Table 5

TEXAS TOWER #2
GEORGES SHOAL

41°41'16.3"N. 67°45'36.2"W. Depth of water - 56 feet

Surface Temperature °F

1958

Month	Jan.		Feb.		March		April		May		June	
Day	Temp	Sal	Temp	Sal	Temp	Sal	Temp	Sal	Temp	Sal	Temp	Sal
1	47.7		43.0		40.4		41.2		43.1		47.9	
2	47.6		43.1		40.4		41.2		43.2		48.0	
3	47.2		43.1		40.4		41.2		43.2		48.0	
4	47.0		42.8		40.4		39.9		43.1		48.0	
5	46.9		42.4		40.3		40.1		43.0		48.0	
6	46.9		41.9		40.4		40.2		43.0		47.9	
7	46.7		41.9		40.4		42.0		43.0		48.2	
8	46.0		42.2		40.3		42.2		43.2		48.2	
9	46.0		42.0		40.4		42.0		43.3		48.1	
10	46.0		41.7		40.4		41.9		43.4		48.2	
11	46.0		41.4		40.5		42.0		43.6		48.2	
12	46.0		41.6		41.2		42.0		45.0		48.3	
13	46.0		41.7		41.3		42.0		45.8		48.5	
14	46.0		41.5		41.3		42.1		46.0		48.6	
15	46.0		41.3		41.4		42.6		46.0		48.8	
16	46.0		41.2		41.3		43.0		46.0		49.4	
17	46.0		41.4		41.3		43.0		46.0		49.7	
18	46.0		41.4		41.2		43.0		46.1		49.9	
19	46.0		41.2		41.2		43.1		46.1		50.4	
20	45.2		41.3		41.1		43.0		46.2		50.3	
21	44.8		41.4		41.2		42.9		46.3		50.4	
22	44.6		41.6		41.2		43.0		46.4		50.6	
23	45.4		41.4		41.2		43.0		46.3		50.6	
24	45.0		41.4		41.4		43.1		46.4		50.7	
25	44.4		41.5		41.4		43.2		46.4		50.8	
26	44.3		41.5		41.4		43.1		46.3		50.9	
27	44.4		41.1		41.4		43.0		46.4		50.9	
28	44.4		40.4		41.4		43.0		46.4		51.3	
29	44.2				41.4		43.0		46.7		51.3	
30	43.9				41.2		43.1		47.6		51.3	
31	43.4				41.2				47.9			
Mean	45.7		41.7		41.0		42.3		45.2		49.4	

Table 5 (Cont'd)

TEXAS TOWER #2
GEORGES SHOAL

41°41'16.3"N. 67°45'36.2"W. Depth of water - 56 feet

Surface Temperature °F

1958

Month	July		Aug.		Sept.		Oct.		Nov.		Dec.	
Day	Temp	Sal	Temp	Sal	Temp	Sal	Temp	Sal	Temp	Sal	Temp	Sal
1	51.4		54.3		61.2	31.99	59.8	31.91	54.9	32.06	49.2	32.41
2	51.6		54.8		61.0	31.98	59.8	31.86	54.4	.10	49.1	.41
3	51.6		55.1		60.4	31.98	59.3	31.89	54.1	.02	48.9	.40
4	51.8		55.0		60.5	31.97	59.0	31.89	54.4	.06	47.5	.38
5	51.8		55.1		60.8	31.98	59.1	31.88	54.1	.14	47.8	.48
6	51.7		55.1		60.8	31.99	58.4	31.98	54.0	.10	47.5	.51
7	51.4		55.0		61.1	32.02	57.4	31.93	54.7	.16	46.2	.54
8	51.4		54.8		61.2	32.01	57.7	31.95	53.8	32.18	45.8	.59
9	51.9		54.9		61.1	32.01	58.1	31.99	52.8	31.74	45.8	.62
10	52.0		54.9		61.0	32.00	58.7	31.92	53.2	32.08	45.8	.69
11	52.1		55.0		60.8	31.98	58.9	31.96	54.0	-	45.8	32.64
12	52.2		55.1		60.9	31.99	58.2	31.96	53.8	32.06	45.4	-
13	52.2		55.0		61.0	32.01	57.4	31.96	53.8	31.64	45.5	32.61
14	52.3		56.0	32.10	60.9	32.02	56.6	31.93	54.0	32.03	45.1	.53
15	52.4		58.6	32.09	61.0	32.02	56.8	32.00	54.3	31.81	45.2	.52
16	52.4		60.4	32.04	60.9	32.00	57.3	31.99	53.5	32.22	45.1	.58
17	52.4		60.8	31.95	60.6	32.06	57.7	31.97	52.4	.25	45.4	.96
18	52.4		60.9	31.94	60.2	31.98	58.1	31.99	52.1	.22	45.3	.60
19	52.4		60.7	31.99	60.1	31.93	57.1	32.00	52.1	.22	44.9	32.59
20	52.3		60.6	31.99	60.2	31.95	56.6	32.01	52.0	.25	45.2	-
21	52.4		61.1	32.04	59.8	32.01	55.9	32.03	51.4	.22	44.5	33.03
22	52.6		60.9	32.02	59.4	32.02	55.4	32.00	51.6	.26	44.1	33.04
23	53.1		60.8	32.09	59.5	31.95	55.9	32.00	50.5	.29	44.4	-
24	54.2		60.5	32.04	59.6	31.95	56.4	32.00	50.1	.26	44.1	32.92
25	54.6		60.0	32.05	59.6	31.93	56.2	31.99	50.2	.25	43.8	.75
26	54.5		61.5	32.04	59.7	31.93	55.7	31.95	49.8	.16	43.3	.75
27	54.4		61.5	32.02	59.5	31.95	56.6	31.96	50.3	.32	43.4	32.93
28	54.2		61.1	31.99	59.4	31.83	56.9	31.99	49.9	.28	43.8	-
29	54.1		61.0	31.89	59.2	31.89	56.9	31.99	49.7	.42	44.1	32.76
30	54.2		61.3	31.89	59.3	31.90	56.4	31.96	49.4	32.41	44.2	33.14
31	54.3		61.0	31.99			55.4	32.08			43.7	32.91
Mean	52.8		58.2	-	60.4	31.98	57.0	31.96	52.5	32.15	45.5	32.68

Nantucket Shoals, Texas Tower #3 (Figure 6, Table 6)

The observations at Texas Tower #3, Nantucket Shoals, which began in March afford an interesting comparison with the record from Texas Tower #2 at Georges Shoal. From March through mid-July the records run parallel, with Nantucket Shoals temperatures running slightly below those at Georges Shoals. From the end of July through December, however, surface water temperatures at Nantucket Shoals lagged behind those at Georges Shoals by more than 5°F. Bigelow (1927, pp. 594-595) remarks on the comparatively cool water found in August over the shallow broken bottom south of Nantucket and says that probably "this cold area is separated from the equally low surface temperatures of Georges Bank by a band of warm surface water along the so-called 'south channel'..." Subsequent surveys (unpublished data in files of Woods Hole Oceanographic Institution) show that these two cool areas are separated, but by a region of even colder water in South Channel in July, August and September. It seems likely, then, that the low temperatures found at Nantucket Shoals represent the western margin of an area of upwelling, and that the southwesterly wind regime which characterizes the summer months in the region drive the warmed surface water to the northeast along the northern edge of Georges Bank, allowing replacement by deep water from the Gulf of Maine. This is in agreement with drift-bottle studies (Day, 1959) which show that southwesterly winds give an onshore component of movement of surface water south of Nantucket and an accelerated northeasterly movement along the northern edge of Georges Bank.

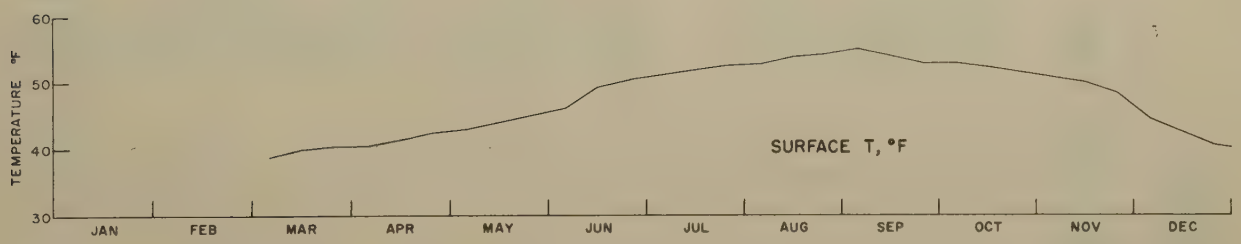

Figure 6. Nantucket Shoals, Texas Tower #3, 1958.

Table 6

TEXAS TOWER #3
NANTUCKET SHOALS

41°00'52"N.
69°29'37"W.

Surface Temperature °F - 1958

Month / Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			38.4	40.4	42.8	45.8	-	52.5	54.6	53.9	51.0	46.7
2			38.6	39.7	43.1	45.6	51.6	51.2	54.1	53.2	50.8	45.3
3			39.1	40.3	43.0	45.5	52.0	52.0	55.2	52.5	51.3	44.9
4			38.6	40.4	42.6	45.6	51.3	53.2	55.5	52.7	50.6	45.8
5			39.1	40.8	42.6	45.8	51.0	52.8	55.2	53.0	51.2	46.1
6			38.8	40.8	42.8	45.6	50.3	52.6	55.1	51.8	51.2	45.1
7			39.0	40.8	42.9	46.0	50.0	53.0	55.8	52.7	50.8	43.5
8			38.4	40.5	43.5	46.6	51.4	53.2	56.1	54.0	50.4	42.6
9			-	40.3	43.4	48.0	52.4	54.1	55.7	53.2	50.9	43.6
10			-	40.6	43.2	48.0	52.4	54.4	55.2	53.9	51.1	43.1
11			-	40.5	43.5	47.9	52.3	54.4	55.0	53.2	50.2	42.5
12			40.0	40.5	44.2	48.1	53.4	54.3	54.6	52.5	50.2	41.9
13			40.4	41.2	43.8	48.7	53.3	53.9	55.4	51.3	50.4	43.4
14			39.7	41.2	43.7	49.2	53.0	53.8	54.8	51.8	50.4	42.5
15			40.3	41.4	43.9	50.0	52.7	54.3	53.4	52.4	50.1	43.0
16			40.0	41.6	43.9	50.2	50.6	54.0	54.4	53.2	50.1	41.6
17			40.0	41.8	44.4	50.4	50.8	53.7	54.6	52.7	49.9	41.8
18			40.1	41.8	44.5	50.1	51.6	54.0	54.4	53.1	50.4	42.6
19			39.9	42.0	44.4	49.9	50.7	53.9	52.7	52.1	50.5	42.8
20			39.9	41.6	44.6	50.1	51.6	53.8	52.5	52.4	50.0	42.6
21			40.6	42.4	44.6	50.2	52.3	53.9	52.9	50.7	49.8	40.9
22			40.3	42.0	44.7	50.2	52.5	55.0	52.5	52.2	49.0	41.0
23			39.8	42.3	45.0	49.9	52.2	55.4	53.5	53.3	48.9	41.3
24			40.6	42.2	44.6	50.0	52.5	54.8	53.5	52.8	49.3	41.2
25			40.8	42.5	44.4	50.4	53.0	55.2	53.2	52.5	48.4	40.4
26			40.6	42.4	44.6	51.2	52.6	56.2	53.2	51.8	48.8	40.4
27			40.4	42.4	45.1	51.4	52.6	54.1	53.0	51.1	48.4	40.5
28			40.8	42.6	45.5	51.6	53.2	52.6	52.5	51.4	48.1	40.8
29			40.4	43.2	45.9	50.3	53.4	53.7	52.1	51.2	48.0	41.0
30			40.3	43.4	46.0	51.0	52.7	52.7	53.5	51.2	46.8	41.5
31			40.7		46.2		52.0	54.5		50.8		39.8
Mean			-	41.5	44.1	48.8	52.0	53.8	54.1	52.4	49.9	42.6

Nantucket Shoals Lightship (Figure 7, Table 7)

Observations missed and data shipments lost make the 1958 record at Nantucket Shoals lightship station disappointing. All that can be said is that, where temperatures are available, 1958 appeared colder than the mean.

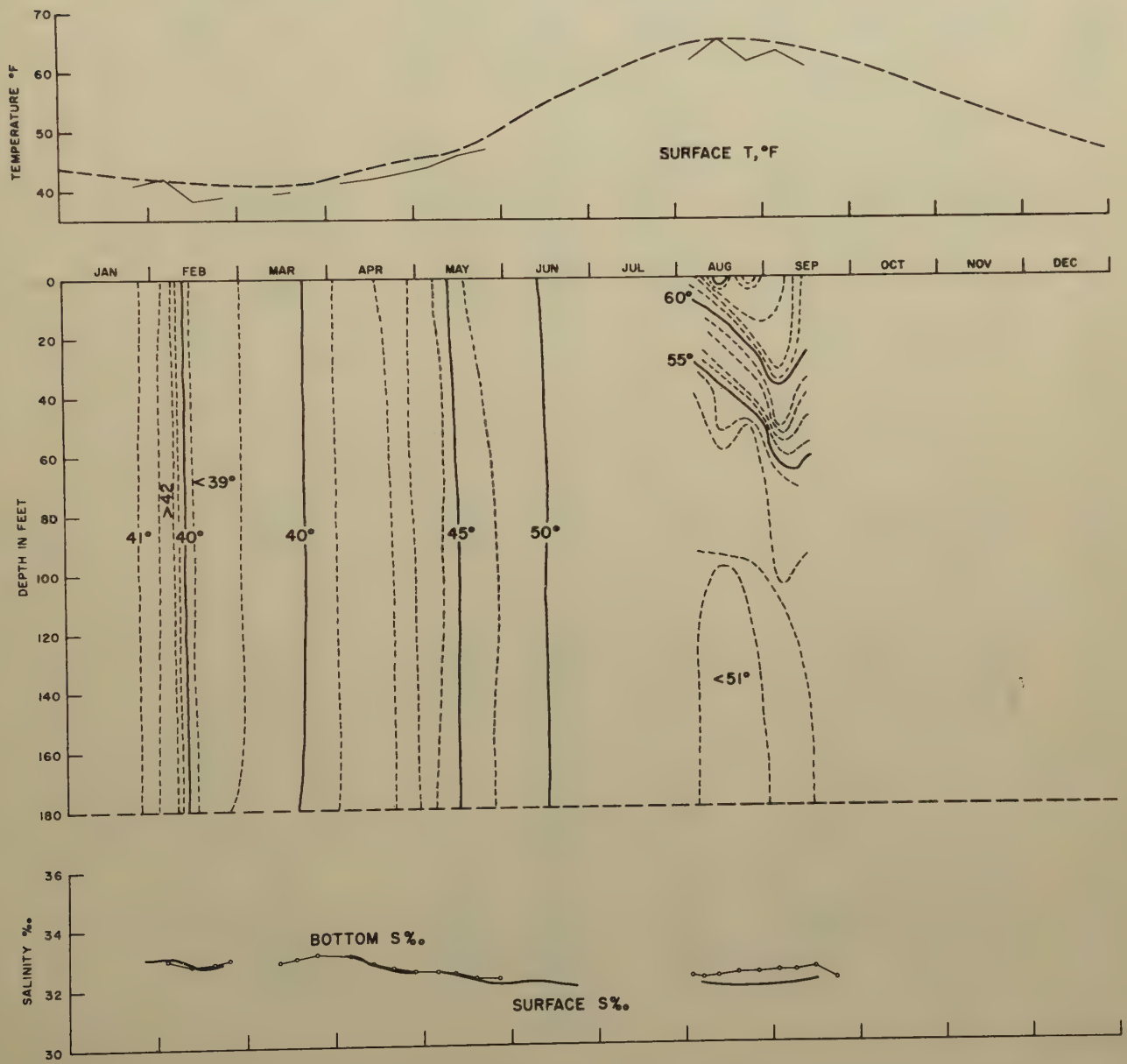

Figure 7. Nantucket Lightship, 1958. (Dashed line in upper diagram, mean for period 1947-1952, 8 miles WSW of present position)

Table 7

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

January 1958

	Temperature °F						Salinity °/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-
3	47.0	47.0	47.0	47.1	47.1	47.1	33.61	-
4	46.9	47.1	47.1	47.3	47.3	47.3	33.65	-
5	-	-	-	-	-	-	-	-
6	47.5	47.6	47.5	47.4	47.4	47.4	33.75	-
7	46.8	46.7	46.7	46.8	46.9	46.9	33.62	-
8	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
15	41.9	41.8	41.7	41.7	41.7	41.7	32.97	-
16	41.9	41.8	41.8	41.8	41.8	41.8	33.01	-
17	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-
20	41.9	41.8	41.6	41.7	41.6	41.6	33.00	-
21	41.8	41.7	41.6	41.6	41.6	41.6	.01	-
22	41.9	41.7	41.6	41.6	41.6	41.6	33.02	-
23	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
26	41.7	41.8	41.6	41.7	41.7	41.7	33.00	-
27	41.8	41.7	41.7	41.6	41.6	41.6	.00	-
28	40.9	40.9	40.9	41.0	41.1	41.1	.11	-
29	40.1	40.2	40.3	40.6	40.7	40.7	.04	-
30	39.2	39.6	39.7	39.8	39.9	39.9	.01	-
31	40.0	40.0	40.1	40.1	40.2	40.2	33.04	-
Mean	-	-	-	-	-	-	-	-

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

February 1958

Depth / Day	Temperature °F						Salinity °/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	44.3	44.3	44.6	44.4	44.3	44.3	33.09	-
2	-	-	-	-	-	-	-	-
3	42.2	42.3	42.4	42.7	42.8	42.8	33.06	32.98
4	42.1	42.2	42.2	42.3	42.5	42.6	.04	-
5	41.3	41.5	41.6	41.8	41.9	41.9	.04	-
6	41.9	42.0	41.9	42.0	42.0	42.0	.04	-
7	41.6	41.8	41.8	41.8	41.9	41.9	33.01	-
8	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-
11	39.1	39.2	39.2	39.2	39.3	39.3	32.78	32.78
12	-	-	-	-	-	-	-	-
13	39.0	39.1	39.1	39.3	39.4	39.4	32.77	-
14	-	-	-	-	-	-	-	-
15	38.6	38.7	38.8	38.8	38.9	38.9	32.79	-
16	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-
19	37.3	37.6	37.6	37.8	37.9	37.9	32.79	32.82
20	37.4	37.7	37.8	37.8	37.9	37.9	.83	-
21	37.5	37.8	37.9	37.9	37.9	37.9	32.86	-
22	-	37.9	38.1	38.1	38.4	38.5	33.05	-
23	38.7	38.8	38.9	38.9	38.9	38.9	32.98	-
24	39.1	38.9	38.9	39.0	39.0	39.0	33.04	32.98
25	38.7	38.9	38.9	39.0	39.0	39.0	32.99	-
26	38.9	38.9	38.9	38.9	38.8	38.8	.97	-
27	39.3	39.4	39.5	39.6	39.8	39.8	32.98	-
28	39.3	39.5	39.5	39.6	39.7	39.8	33.05	-
Mean	39.8	39.8	39.9	39.9	40.0	40.0	32.96	32.89

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

March 1958

Depth / Day	Temperature °F						Salinity °/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11	39.3	39.4	39.2	39.2	39.2	39.2	32.87	32.87
12	39.0	39.0	39.1	39.1	39.2	39.3	.81	-
13	39.0	39.0	39.0	39.0	39.2	39.3	32.83	-
14	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-
17	39.8	39.8	39.9	40.0	40.1	40.2	32.98	32.98
18	40.2	40.3	40.3	40.4	40.5	40.6	33.06	-
19	40.1	40.1	40.2	40.3	40.6	40.7	33.07	-
20	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-
24	40.6	40.5	40.5	40.7	40.9	40.9	33.11	33.11
25	40.8	40.7	40.7	40.7	40.8	41.0	33.10	-
26	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
29	40.2	40.5	40.5	40.6	40.7	40.8	33.12	-
30	40.5	40.5	40.6	40.7	40.9	41.0	.11	-
31	40.0	40.4	40.4	40.5	40.7	40.8	33.10	-
Mean	-	-	-	-	-	-	-	-

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

April 1958

Depth / Day	Temperature °F						Salinity °/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
5	41.0	41.0	41.0	41.0	41.1	41.1	33.10	-
6	41.1	41.2	41.2	41.2	41.3	41.4	.09	33.04
7	41.1	41.1	41.1	41.2	41.2	41.3	.06	-
8	41.5	41.4	41.5	41.6	41.8	41.9	.06	-
9	41.3	41.3	41.3	41.6	41.6	41.6	33.06	-
10	41.5	41.4	41.3	41.5	41.5	41.5	32.93	-
11	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-
13	41.0	40.7	40.7	40.8	40.9	41.0	32.71	32.79
14	41.8	41.1	41.1	41.1	41.1	41.1	.73	-
15	41.2	40.8	40.8	40.8	40.8	40.8	.67	-
16	42.3	41.0	41.0	41.3	41.4	41.4	.76	-
17	43.4	41.6	41.2	41.2	41.2	41.3	.77	-
18	41.1	41.2	41.2	41.1	41.4	41.5	.62	-
19	41.5	41.5	41.5	41.6	41.6	41.6	.60	-
20	42.8	42.2	41.8	41.7	41.7	41.7	.60	32.62
21	42.8	42.5	41.9	41.5	41.8	41.8	.60	-
22	42.7	42.7	42.7	42.2	42.1	42.1	.60	-
23	42.6	42.7	42.7	42.7	42.5	42.5	.51	-
24	42.5	42.3	42.1	42.1	42.1	42.1	.48	-
25	43.2	43.1	42.5	42.2	-	-	.59	-
26	43.0	43.0	42.9	42.6	42.6	42.8	.37	-
27	42.9	42.7	42.5	42.6	42.8	42.9	.36	32.50
28	42.2	42.2	42.2	42.2	42.3	42.5	32.31	-
29	-	-	-	-	-	-	-	-
30	43.9	43.9	43.9	43.9	43.6	43.6	32.52	-
Mean	42.1	41.9	41.7	41.7	41.7	41.8	32.70	32.74

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

May 1958

Depth / Day	Temperature °F						Salinity °/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	44.2	43.1	43.1	43.6	43.8	43.8	32.32	-
2	44.4	43.1	43.1	43.1	43.3	43.4	.44	-
3	43.3	43.3	43.3	43.4	43.5	43.6	.36	-
4	43.3	43.1	43.1	43.3	43.7	43.8	.35	32.49
5	43.3	43.3	43.6	43.9	44.0	44.1	.51	-
6	43.3	43.2	43.3	43.8	43.9	44.0	32.51	-
7	-	-	-	-	-	-	-	-
8	44.2	43.8	43.8	43.9	44.0	44.1	32.53	-
9	-	-	-	-	-	-	-	-
10	45.4	44.5	44.4	44.5	44.7	44.8	32.59	-
11	44.3	44.3	44.1	44.1	44.2	44.3	.16	32.47
12	44.7	44.3	44.1	44.1	44.3	44.3	.15	-
13	46.1	44.8	44.6	44.3	44.2	44.2	32.32	-
14	-	-	-	-	-	-	-	-
15	45.1	44.2	44.1	43.8	43.9	44.1	32.40	-
16	45.7	45.8	45.8	45.8	45.9	45.9	.35	-
17	46.3	45.9	45.9	45.8	46.1	46.1	.35	-
18	47.0	46.4	46.0	46.0	46.1	46.1	.34	32.29
19	47.0	46.9	46.9	46.1	46.1	46.2	.25	-
20	47.2	46.3	46.5	46.9	47.6	47.2	.24	-
21	49.0	47.2	49.1	47.4	47.2	47.2	.37	-
22	48.7	47.9	46.6	46.6	47.1	47.2	.18	-
23	46.8	46.5	46.0	44.9	44.9	45.0	.22	-
24	46.7	46.2	46.3	45.2	45.5	45.5	32.03	-
25	-	-	-	-	-	-	-	-
26	46.6	45.7	45.1	45.2	45.4	45.6	31.57	32.71
27	46.2	45.2	45.3	45.3	45.6	45.6	31.90	-
28	-	-	-	-	-	-	-	-
29	45.9	45.2	45.1	45.4	45.8	45.9	32.09	-
30	46.5	46.1	45.9	45.9	46.1	46.2	.00	-
31	46.6	46.1	45.9	45.9	46.0	46.1	32.02	-
Mean	45.7	45.1	45.0	44.9	45.1	45.2	32.25	32.49

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

June 1958

Depth / Day	Temperature °F						Salinity °/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
5	49.8	49.1	49.1	49.2	49.6	49.8	32.57	-
6	49.1	49.1	49.2	49.6	49.8	49.8	32.10	-
7	49.2	48.7	48.3	48.7	48.9	49.0	31.97	-
8	51.1	50.0	49.7	49.1	49.3	49.6	32.19	32.35
9	-	-	-	-	-	-	-	-
10	50.1	49.1	49.9	48.9	49.4	49.7	31.78	-
11	54.2	53.1	52.8	50.8	49.8	49.8	32.58	-
12	51.8	50.8	50.9	51.0	51.1	51.1	31.95	-
13	51.2	50.2	50.3	50.8	50.8	50.9	31.90	-
14	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-
17	51.8	50.7	50.9	51.0	51.1	51.1	31.88	-
18	52.1	51.0	50.8	50.3	51.1	51.2	31.86	-
19	51.2	50.4	50.3	50.4	50.7	50.8	32.09	-
20	51.6	50.3	50.3	50.6	50.9	51.2	31.89	-
21	51.1	50.4	50.4	50.6	51.0	51.2	.92	-
22	51.6	50.7	50.7	50.9	51.1	51.2	.92	-
23	50.9	50.6	50.4	50.8	51.1	51.2	.92	-
24	52.0	50.7	50.7	50.8	51.1	51.2	.93	-
25	51.6	50.6	50.6	50.8	51.1	51.2	31.90	-
26	-	-	-	-	-	-	-	-
27	52.1	51.1	51.2	51.4	51.9	51.9	31.85	-
28	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
Mean	-	-	-	-	-	-	-	-

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

July 1958

	Temperature °F						Salinity °/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'

No data

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

August 1958

	Temperature °F						Salinity °/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	57.0	51.9	51.8	50.6	49.7	49.7	31.95	-
2	55.2	52.1	51.9	51.7	50.2	50.3	32.07	32.29
3	60.6	52.2	52.0	52.0	51.8	51.7	32.08	-
4	64.1	54.1	53.1	51.2	50.0	49.7	31.96	-
5	57.6	54.3	52.6	51.5	50.9	50.8	.95	-
6	63.0	54.1	52.9	52.1	51.4	51.5	.96	32.19
7	59.1	53.0	52.9	52.3	51.8	51.7	.96	-
8	65.8	54.4	52.9	52.5	51.9	51.9	31.95	-
9	67.3	56.0	52.8	52.3	51.8	51.6	32.00	-
10	68.9	58.7	53.2	52.7	51.2	50.9	.01	-
11	66.2	57.6	53.1	52.2	50.8	50.7	.00	32.24
12	67.1	54.2	52.8	52.1	51.2	51.1	32.02	-
13	64.3	54.1	52.6	52.1	51.7	51.7	31.88	-
14	66.6	60.3	56.7	51.1	50.3	50.1	.90	-
15	66.8	60.7	56.1	49.8	48.9	48.9	.88	-
16	-	-	-	-	-	-	.92	-
17	65.2	60.1	54.1	49.4	49.4	49.4	.68	-
18	66.9	60.8	56.8	49.7	49.2	49.2	.68	32.33
19	62.8	56.8	52.8	49.9	49.9	49.9	.81	-
20	62.9	55.0	52.8	51.1	49.9	49.9	.86	-
21	65.6	56.1	53.6	52.0	50.3	50.3	.82	-
22	62.6	57.3	51.8	51.1	50.3	50.3	.90	-
23	63.1	59.2	53.9	51.8	50.9	50.9	31.92	-
24	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	31.88	32.37
26	60.9	58.7	51.8	50.9	50.7	50.5	.86	-
27	59.4	59.0	55.9	51.7	51.2	51.0	.61	-
28	59.7	56.9	52.9	52.5	51.9	-	31.84	-
29	-	-	-	-	-	-	-	-
30	60.1	59.2	50.9	49.0	48.9	48.9	31.81	-
31	-	-	-	-	-	-	-	-
Mean	63.0	56.4	53.3	51.4	50.6	50.5	31.90	32.28

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 fee

September 1958

Depth / Day	Temperature °F						Salinity °/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	62.0	60.9	55.2	53.0	50.7	50.5	31.87	-
2	61.8	61.1	58.0	53.0	50.6	50.3	.88	32.43
3	62.5	61.6	60.6	55.0	51.3	51.3	.89	-
4	63.1	61.1	59.3	53.2	51.1	51.0	.90	-
5	63.5	61.6	59.6	53.8	52.1	52.1	.92	-
6	64.0	62.9	62.0	52.9	52.2	52.2	.88	-
7	64.1	63.0	59.0	53.0	51.7	51.5	.89	-
8	65.0	63.0	58.7	53.7	51.6	50.9	.90	32.42
9	63.8	62.7	57.6	53.2	51.1	50.9	.92	-
10	64.0	63.6	63.0	53.7	50.9	50.9	.93	-
11	63.0	63.0	58.0	53.0	50.9	50.8	31.96	-
12	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-
14	59.8	57.3	54.8	53.5	52.9	52.9	32.09	-
15	62.8	60.0	56.5	51.5	51.1	51.1	.11	32.52
16	62.2	60.0	56.5	51.7	50.9	50.9	.08	-
17	60.3	58.0	55.0	52.9	52.3	52.3	.06	-
18	59.7	57.6	54.4	52.0	51.9	51.9	.10	-
19	61.0	61.3	61.4	52.6	52.2	52.2	.10	-
20	57.0	56.8	55.2	54.0	53.8	53.8	32.10	-
21	-	-	-	-	-	-	-	-
22	59.0	58.6	57.4	56.1	55.8	55.7	32.07	32.15
23	59.0	58.0	57.5	56.5	55.8	55.7	.09	-
24	62.5	59.1	57.9	55.9	55.1	55.1	.06	-
25	63.0	58.9	57.2	55.7	54.9	54.9	32.05	-
26	-	-	-	-	-	-	-	-
27	62.8	61.7	59.0	55.5	53.8	53.7	32.10	-
28	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
Mean	-	-	-	-	-	-	-	32.38

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

October 1958

Depth / Day	Temperature °F						Salinity °/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1							-	
2							-	
3							-	
4							-	
5							32.13	32.30
6							.12	
7							.12	
8							.17	
9							.03	
10							.06	
11							.04	
12							.17	
13							.30	32.64
14							32.81	
15							-	
16							32.66	
17							.69	
18							.18	
19							32.65	
20							-	
21							32.65	
22							32.98	
23							-	
24							-	
25							-	
26							-	
27							32.35	
28							-	
29							32.32	
30							-	
31							32.36	

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

November 1958

Depth / Day	Temperature °F						Salinity °/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1							32.40	
2							.40	
3							.36	
4							.65	
5							.54	
6							.59	
7							.64	
8							32.64	
9								
10								
11								
12								
13							32.74	
14							.68	
15							32.67	
16							-	
17							32.67	
18							-	
19							32.70	
20							32.31	
21							-	
22							32.27	
23							-	
24							-	
25							-	
26							-	
27							-	
28							-	
29							-	
30							-	

Table 7 (cont'd)

NANTUCKET SHOALS LIGHTSHIP 40°33'00"N. 69°28'00"W Depth of water - 192 feet

December 1958

	Temperature °F						Salinity °/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'

No data

Woods Hole, Massachusetts (Figure 8, Table 8)

A warm January gave way to below normal surface water temperatures in late February and early March with a minimum of 30.1°F in late February (when temperatures were taken through the ice). Early warming averaged slightly in advance of the mean, but slowed down after mid-May. Summer temperatures remained below the mean with the exception of the maximum of 71°F which occurred in mid-August. Cooling, except during the latter part of November, was ahead of the mean; the monthly mean for December was 36.5°F, the coldest for that month since 1935. The annual mean of 50.7°F was the coldest since 1940.

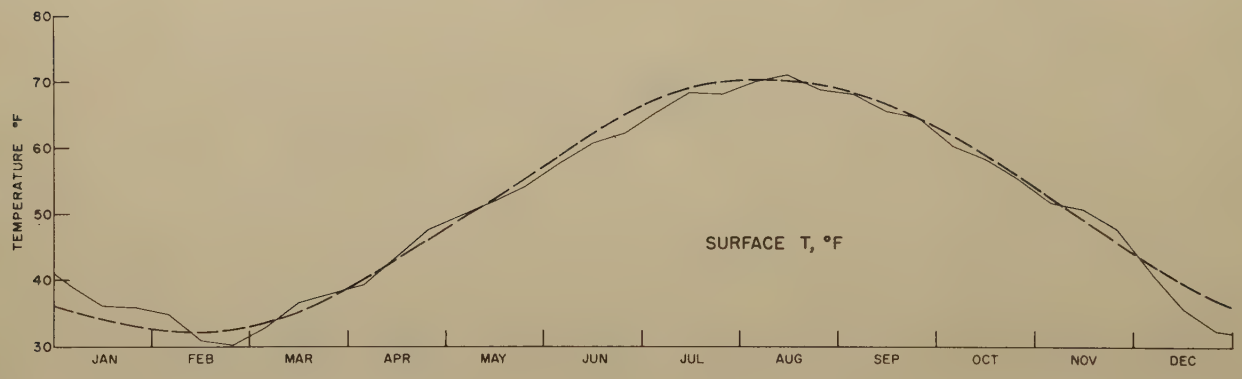

Figure 8. Woods Hole, Massachusetts, 1958. (Dashed line mean for period 1880–1956)

Table 8

WOODS HOLE, MASSACHUSETTS 41°31'N. 70°40'W.

Surface Temperature, °F - 1958

Month / Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	43.7	36.0	32.0	39.2	51.0	-	64.5	68.2	-	62.0	53.2	43.5
2	42.0	35.9	32.3	39.5	50.7	57.5	66.5	-	69.0	-	52.3	43.0
3	40.2	35.0	32.0	39.0	49.9	57.5	65.7	-	68.5	61.0	51.5	42.2
4	39.4	34.5	32.7	39.7	49.8	57.2	65.5	70.1	68.2	-	51.0	42.0
5	37.5	34.5	33.0	40.4	49.5	57.5	65.1	70.0	68.7	-	52.0	42.5
6	38.0	34.5	32.7	40.1	49.0	58.0	63.9	70.5	-	59.0	52.2	42.6
7	38.5	34.5	33.3	40.5	49.0	-	63.5	71.2	-	59.6	51.7	40.5
8	38.5	34.9	34.0	-	49.0	-	65.5	71.0	68.0	59.8	51.1	40.0
9	36.5	34.5	34.2	-	49.5	58.0	66.0	-	67.2	60.3	50.9	40.0
10	37.0	34.5	34.2	-	50.6	58.0	69.0	-	67.5	60.7	51.0	39.2
11	37.2	32.0	35.5	-	51.3	58.5	68.7	71.5	66.2	60.5	50.3	37.5
12	35.8	32.5	35.2	41.0	52.0	61.0	68.4	72.2	66.0	58.6	51.0	36.5
13	36.0	32.5	35.7	42.2	52.2	60.5	67.3	72.0	-	57.7	51.0	35.9
14	36.5	31.5	36.5	43.0	52.5	-	66.5	72.0	-	57.5	51.0	36.0
15	36.0	31.3	37.4	44.2	52.0	-	68.2	72.7	66.2	58.0	50.7	35.0
16	36.5	30.7	37.6	43.5	50.5	62.7	70.0	-	67.2	58.0	50.6	35.0
17	37.0	29.5	37.5	44.0	-	61.2	70.0	-	65.7	58.2	50.5	35.0
18	36.4	28.5	36.5	44.0	-	61.7	68.5	69.0	65.0	58.5	51.0	35.5
19	35.5	29.0	37.0	-	53.2	60.2	68.2	69.2	64.0	58.1	51.2	35.7
20	34.2	29.5	36.7	44.8	52.2	59.7	68.2	69.7	64.0	57.7	51.0	36.0
21	34.2	29.2	37.0	46.0	53.2	59.4	68.7	70.0	64.3	56.5	50.7	33.6
22	35.2	29.5	37.2	46.7	54.5	60.0	69.0	69.7	64.5	56.5	49.7	32.5
23	36.0	29.6	37.0	47.0	53.7	60.0	67.5	-	64.5	57.5	48.9	34.0
24	35.2	29.5	37.2	47.0	-	60.2	68.7	-	65.5	56.0	49.5	33.5
25	35.7	29.7	37.5	48.0	-	62.5	69.0	69.7	65.0	56.0	48.0	31.9
26	36.0	30.5	38.0	48.7	54.2	63.7	-	69.0	67.0	55.2	47.2	30.8
27	36.0	30.5	38.0	48.5	54.5	62.5	-	68.2	-	55.0	47.2	31.2
28	36.0	32.0	38.0	48.0	54.5	63.9	66.5	67.5	-	55.0	46.2	31.7
29	36.5		39.2	48.7	55.5	64.6	67.2	66.7	63.0	54.5	46.7	32.5
30	37.0		39.5	49.1	-	65.0	68.5	-	62.5	54.0	43.8	33.2
31	37.0		39.0		-		68.2	-		53.7		32.5
Mean	37.0	32.0	35.9	44.1	51.8	60.4	67.2	70.0	66.0	57.7	50.1	36.5

Buzzards Lightship (Figure 9, Table 9)

The winter minimum surface temperature at Buzzards station was 32.4°F in late February and was 3.9°F lower than the 1957 minimum. Warming began in early March, but temperatures remained below the 1957 record. While 1956 was colder during the spring than was 1958, after June the summer months of 1958 were cooler than either of the previous two years. The highest surface temperature occurred in early September at 65.7°F. Autumn cooling was more rapid than it was in 1956 and 1957, and December showed a sharp drop in surface temperatures.

The three years record from the current lightship program indicates that comparison with the mean for Vineyard Sound Lightship (1878 - 1910), which lay less than four miles from the present position of Buzzards, may be misleading. The records at Buzzards from 1956 - 1958 are consistently higher than are those for the Vineyard Sound Lightship. Consequently the record for 1958, which we have classed as a cold year, nevertheless falls on or above the 32-year mean for the old Vineyard Sound station.

The 1957 and 1958 surface salinities were very similar up until mid-April, after which time the 1958 values fell lower as a result of greater run-off. Throughout the summer and well into the autumn surface salinity was lower in 1958 than it had been during the previous two years.

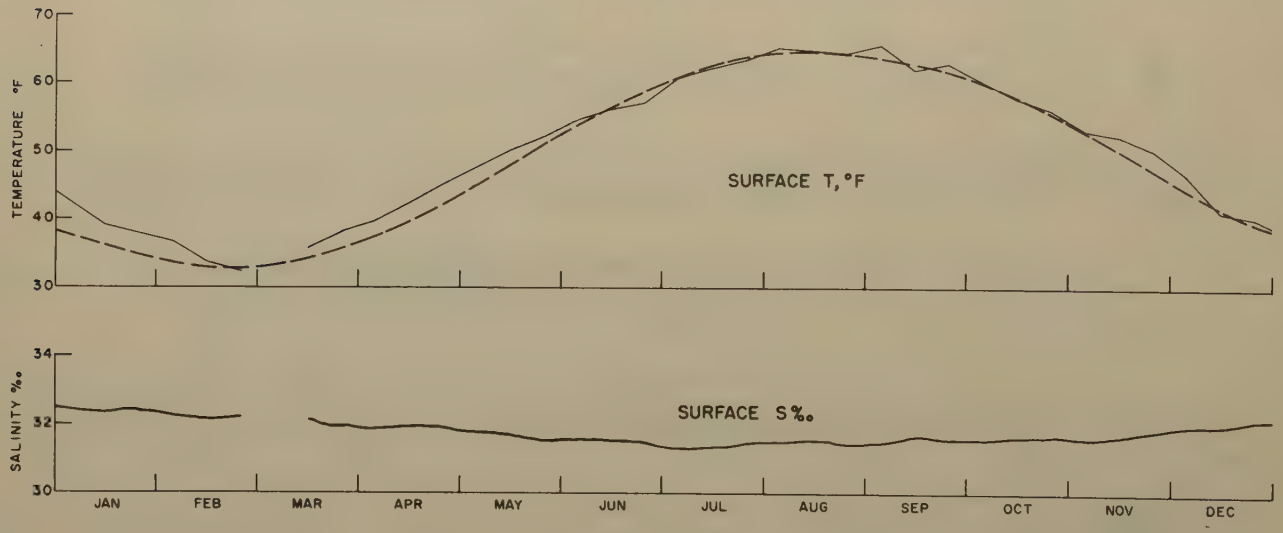

Figure 9. Buzzards Lightship, 1958, (Dashed line, mean for Vineyard Sound Lightship, 1878-1910)

Table 9

BUZZARDS LIGHTSHIP 41°24'00"N. 71°03'00"W. Depth of water - 74 feet

Surface Water - 1958

Month / Day	Jan.		Feb.		Mar.		Apr.		May		June	
	T°F	Sal o/oo	T°F	Sal o/oo	T°F	Sal o/oo	T°F	Sal o/oo	T°F	Sal o/oo	T°F	Sal o/oo
1	-	-	38	32.14	-	-	39	31.99	46	31.88	54	31.58
2	44	32.48	37	.14	-	-	33	.77	47	.86	53	.57
3	43	.37	38	.25	-	-	39	.86	48	.88	53	.58
4	42.5	.33	37	.20	-	-	39	.89	47	.86	54	.56
5	41	.30	36.5	.25	-	-	40	31.91	47	.92	54	.56
6	41.5	.38	37	.30	-	-	40	32.00	48	.76	57	.39
7	41.5	.40	36.5	.30	34	32.23	41	.04	47	.64	55	.55
8	43	.48	36.5	.31	34	.24	42	32.11	48	.64	56	.54
9	42.5	.51	34.5	.21	34	.23	42	31.81	49	.25	56	.50
10	42	.47	35	.04	34	.25	42	31.78	49	.30	56	.41
11	40.5	.34	35.5	.22	34	.23	42	32.16	49	.57	56	.50
12	38.5	.16	34.5	.17	34.	32.04	41	31.78	49	.44	56	.37
13	39	.33	35	.27	35	31.95	41	31.69	51	.64	57	.54
14	38.5	.20	34.5	.24	36	32.31	42	32.08	50	.64	58	.36
15	39	.37	35	32.25	36	32.23	42	31.82	51	.82	58	.38
16	39.5	.38	32	31.48	36	31.93	43	32.04	50	.76	56	.38
17	40	.38	32	32.25	37	32.17	43	.00	50	.81	57	.57
18	39	.33	32	.19	36	.06	43	.00	50	.66	56	.48
19	38.5	.35	33.5	.27	36	.14	43	.04	51	.46	56	.59
20	38	.34	32.5	.19	36	.19	44	.04	51	.49	54	.61
21	38	.26	31.5	32.20	37	32.10	43	.04	51	.52	55	.48
22	38.5	.39	-	-	37	31.81	44	32.00	51	.50	57	.36
23	38	.41	-	-	38	.94	46	31.99	52	.46	57	.40
24	38	.34	34	32.22	38	31.92	47	.90	52	.59	57	.47
25	38.5	.40	32	.17	38	32.00	46	.88	52	.52	57	.53
26	38	.21	32	.15	39	.05	47	.66	53	.07	58	.50
27	38	.27	32	32.25	38	.22	47	.74	52	.58	58	.48
28	38	.82	33	-	39	32.00	46	.95	52	.63	57	.37
29	37	.81			38	31.46	46	.78	53	.54	58	.33
30	37.5	.86			39	.70	40	31.89	53	.43	58.5	31.33
31	37.5	32.04			38	31.70			53	31.55		
Mean	39.6	32.39	34.5	32.19	-	-	42.4	31.92	50.1	31.60	56.2	31.48

Table 9 (cont'd)

BUZZARDS LIGHTSHIP 41°24'00"N. 71°03'00"W. Depth of water - 74 feet

Surface Water - 1958

Month / Day	July		Aug.		Sept.		Oct.		Nov.		Dec.	
	T°F	Sal o/oo	T°F	Sal o/oo	T°F	Sal o/oo	T°F	Sal o/oo	T°F	Sal o/oo	T°F	Sal o/oo
1	58.5	31.29	63	31.41	65	31.30	64	-	54.5	31.63	49.5	32.27
2	60	.34	64	.55	65	.36	62	-	54	.55	47.5	31.92
3	60	.36	64	.54	65	.45	60	-	54	.61	47.5	31.92
4	60	.46	65	.48	66	.50	60	31.58	53.5	.63	47.5	32.12
5	60	.35	65	.47	66	.49	61	.47	52.5	.46	47.5	31.94
6	60	.26	65	.59	66	.39	58	.50	53	.48	47	31.79
7	61	.18	66	.47	68	.50	60	.46	53	.65	45.5	32.05
8	62	.19	67	.43	66	.46	60	.50	52	.53	45	32.00
9	63	.16	67	.42	65	.46	59	.57	52.5	.61	44	31.88
10	63	.21	67.5	.46	65	.46	-	.49	52.5	.60	45	.95
11	64	.23	66	.48	63	.51	58	.51	52.5	.63	42.5	31.84
12	63.5	.24	64	.64	62	.65	59	.48	52	.61	42.5	32.07
13	63	.18	66	.47	62	.65	58.5	.52	52	.61	41	31.90
14	63	.28	65	.55	60	.72	58	.68	52	.65	38	.74
15	62	.34	65	.64	61	.72	57	.65	52.5	.63	40.5	31.91
16	62	.16	66	.47	63	.68	58	.65	53	.73	41	32.03
17	63	.32	65	.56	62	.68	58	.64	53	.78	41.5	.24
18	62	.39	65	.50	60.5	.69	57.5	.64	52.5	.73	42	.05
19	60	.43	64	.54	65	.68	56.5	.67	52	.72	41	.06
20	62	.37	64	.57	62	.66	57.5	.68	52	.71	41.5	.13
21	64	.33	65	.52	65.5	.56	57.	.74	51.5	.53	42	.18
22	64	.34	66	.57	62.5	.62	56.5	.75	51	.63	40	.13
23	64	.54	67	.59	63.5	.70	57	.74	52	.92	42	.23
24	63	.55	64	.60	63	.64	57	.73	51.5	.85	44	.20
25	62	.54	65	.60	64.5	.59	56.5	.71	49	.82	39.5	.17
26	64	.54	64.5	.20	63	.57	56	.68	49	.83	40	.16
27	63.5	.54	64	.32	63	.67	56	.60	51	.85	40	.18
28	63.5	.46	64	.09	61	.57	55.5	.58	50	.73	41	.20
29	63.5	.46	64	.35	63	.46	55.5	.55	48	31.69	39	.13
30	63.5	.46	63	.38	61.5	31.46	55.	.61	50	32.25	39	.20
31	63	31.46	63	31.34			55	31.64			38.5	32.16
Mean	62.3	31.35	64.9	31.48	63.6	31.56	58.0	31.61	51.9	31.69	42.7	32.06

Ambrose Lightship (Figure 10, Table 10)

The winter minimum, more than 2°F below the mean, occurred in late February with a temperature of 35.6°F. Recovery had been made by April, at which time the thermocline started to develop. There are no data for May and part of June when the vessel was off station, but the record resumes showing a cold summer with early cooling and temperatures well below the mean. The summer maximum of 71.4°F occurred in early August. The passage of hurrican Helene on 28 September weakened the thermocline by mixing, but the gradient was not completely destroyed until the last decade in October. At this time bottom temperature reached a maximum of 57.5°F. Above normal air temperatures in November retard cooling. In December the vessel was again off station.

Salinities at the surface were similar to those of 1956 except that the minimum of 24.65 °/oo was considerably lower. The 1957 values were uniformly above those for 1956 and 1958.

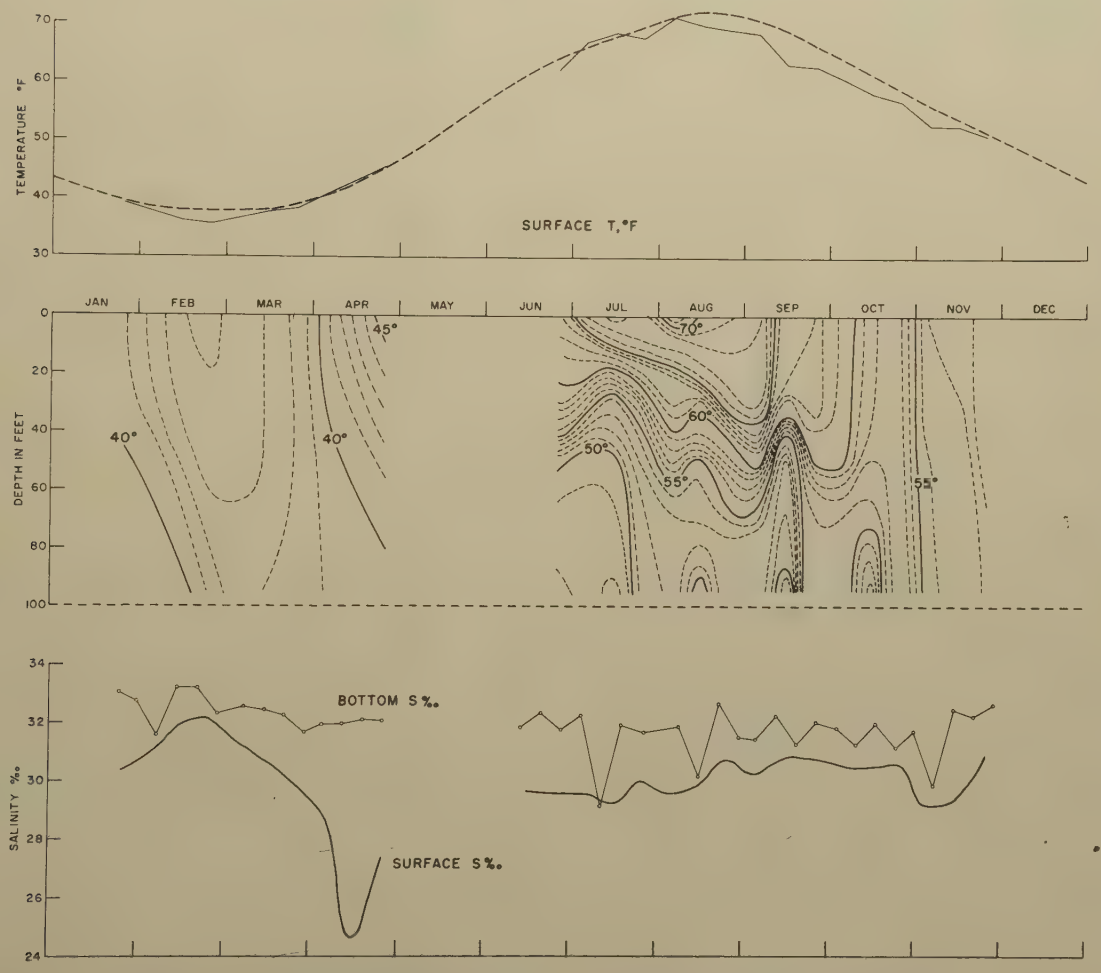

Figure 10. Ambrose Lightship, 1958. (Dashed line in upper diagram, mean for period 1937-1956)

Table 10

AMBROSE LIGHTSHIP 40°27.1'N. 73°49.4'W. Depth of water - 95 feet

1958

	January						February					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1							37.1	37.9	39.1	40.4	29.65	-
2							36.9	37.7	38.5	40.1	31.39	-
3							37.5	37.8	38.4	39.2	31.26	-
4							37.0	37.8	39.9	39.9	30.47	-
5							37.5	37.8	41.2	41.7	30.70	-
6							36.1	38.4	41.9	41.9	28.87	-
7							38.1	39.1	42.3	42.3	31.32	31.59
8							39.1	39.2	40.0	41.9	.93	-
9							38.6	38.7	38.9	40.1	31.81	-
10							38.0	38.0	38.3	39.6	32.28	-
11							35.1	36.8	37.6	41.8	31.08	-
12							34.2	37.1	39.2	43.0	30.90	-
13							36.8	36.8	38.0	42.9	32.07	-
14							37.0	37.2	37.6	41.4	31.90	33.22
15							36.0	36.1	38.9	40.0	31.56	-
16							38.0	38.5	38.8	39.0	33.02	-
17							-	-	-	-	31.60	-
18							34.3	34.4	36.0	37.2	31.60	-
19	41.9	41.9	41.9	41.8	32.95	-	-	-	-	-	32.31	-
20	41.0	41.0	41.0	41.0	32.94	-	37.1	37.2	37.2	39.0	33.06	-
21	37.8	40.8	40.8	40.8	30.63	-	37.1	37.1	37.0	39.2	33.00	33.22
22	39.4	40.2	40.2	40.3	30.63	-	32.8	35.3	36.2	37.8	31.36	-
23	39.8	39.9	41.9	41.9	31.77	-	35.9	36.1	36.8	37.7	32.64	-
24	40.3	40.3	42.2	43.8	31.75	33.06	34.3	36.4	36.9	41.5	31.00	-
25	40.4	40.7	40.9	43.1	32.03	-	36.0	36.1	36.9	40.7	31.75	-
26	40.7	40.6	40.5	41.0	32.53	-	36.7	36.9	36.8	39.2	32.45	-
27	38.1	38.1	38.1	39.0	31.89	-	37.3	37.3	37.3	-	.82	-
28	39.4	39.4	39.3	39.1	32.49	-	34.9	34.9	34.9	35.2	32.20	32.30
29	37.9	38.9	39.2	39.9	26.43	-						
30	37.8	38.8	39.0	39.8	25.99	-						
31	38.7	38.7	39.0	40.8	27.74	32.74						
Mean	-	-	-	-	-	-	36.5	37.2	38.3	40.1	31.64	32.58

Table 10 (cont'd)

AMBROSE LIGHTSHIP 40°27.1'N. 73°49.4'W. Depth of water - 95 feet

1958

	March						April					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	36.6	36.4	36.3	36.5	32.00	-	40.0	39.8	38.8	38.9	30.44	-
2	36.1	36.4	36.5	36.6	32.29	-	40.1	39.8	39.9	-	30.95	-
3	37.1	36.3	36.2	36.1	29.43	-	39.6	39.6	39.5	39.2	31.64	-
4	36.9	36.3	36.2	36.2	32.00	-	40.9	40.6	40.0	40.0	31.07	31.93
5	37.0	36.8	36.2	36.2	32.08	-	40.9	40.2	39.6	39.5	29.35	-
6	-	-	-	-	31.93	-	40.8	40.6	39.7	39.5	28.85	-
7	36.0	36.0	36.1	36.2	30.94	32.52	41.8	40.8	39.9	39.6	.48	-
8	36.2	36.2	36.8	38.1	31.14	-	41.5	40.3	39.3	38.4	28.04	-
9	36.3	36.9	36.9	39.0	30.74	-	41.0	40.0	38.6	38.4	27.32	-
10	36.9	36.9	36.7	39.2	.14	-	42.2	41.0	38.7	38.7	21.67	-
11	37.1	36.7	36.7	39.2	30.69	-	40.9	40.4	40.0	38.6	25.10	31.97
12	36.8	36.8	36.2	38.1	31.50	-	41.8	41.3	41.0	39.1	.08	-
13	37.0	36.9	36.9	38.8	28.16	-	42.0	41.2	40.1	39.5	25.44	-
14	37.6	37.6	37.4	37.4	32.23	32.46	42.5	40.7	40.1	39.2	23.06	-
15	37.6	37.5	37.5	37.5	32.33	-	43.0	40.6	40.4	38.9	25.17	-
16	37.2	37.2	37.2	37.8	30.32	-	41.4	40.5	39.5	38.6	22.38	-
17	37.6	37.6	37.4	39.0	29.24	-	45.3	41.2	40.3	39.2	22.94	-
18	37.8	37.7	37.0	39.0	29.16	-	43.7	41.9	40.0	39.3	26.44	32.10
19	37.7	37.7	38.1	38.7	31.03	-	45.9	42.0	40.4	39.4	25.62	-
20	36.8	36.8	36.8	37.0	32.11	-	45.7	44.4	40.1	39.3	.26	-
21	-	-	-	-	32.08	32.26	45.3	-	-	38.3	25.48	-
22	37.1	37.2	37.9	37.9	30.80	-	43.0	42.2	41.1	38.3	28.96	-
23	37.1	37.2	37.7	38.1	30.35	-	-	-	-	-	24.90	-
24	37.2	37.2	37.2	38.6	28.41	-	43.5	40.9	39.1	38.1	27.88	-
25	37.5	37.5	37.2	37.9	25.51	-	46.4	41.3	40.7	39.5	26.20	32.05
26	39.1	38.9	38.8	38.9	31.18	-	47.1	42.7	40.1	39.8	26.46	-
27	38.5	38.4	38.2	38.0	.25	-	47.8	46.8	39.9	39.2	27.63	-
28	37.9	37.9	37.9	37.9	31.75	31.69	45.2	45.2	44.0	40.0	29.38	-
29	39.1	38.3	38.3	38.3	28.88	-	46.8	46.2	43.5	42.0	29.51	-
30	39.8	38.9	38.9	38.7	31.18	-	-	-	-	-	-	-
31	40.9	39.2	38.8	38.8	27.48	-						
Mean	37.5	37.3	37.2	37.9	30.60	32.23	43.1	41.6	40.2	39.2	26.92	32.01

Table 10 (Cont'd)

AMBROSE LIGHTSHIP 40°27.1'N. 73°49.4'W. Depth of water - 95 feet

1958

	May						June					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1												
2												
3												
4												
5												
6												
7							63.7	57.8	55.9	50.0	30.53	-
8							-	-	-	-	29.03	-
9							59.2	58.2	47.9	46.0	27.07	-
10							-	-	-	-	30.00	-
11							-	-	-	-	.12	-
12							-	-	-	-	.52	-
13							-	-	-	-	.07	31.81
14							-	-	-	-	.08	-
15							-	-	-	-	30.43	-
16							-	-	-	-	28.96	-
17							-	-	-	-	.31	-
18							-	-	-	-	28.60	-
19							-	-	-	-	29.49	-
20							-	-	-	-	29.95	32.32
21							62.1	61.2	49.8	47.2	30.25	-
22							62.1	62.2	54.4	48.1	29.58	-
23							-	-	-	-	.86	-
24							-	62.0	53.7	49.3	.85	-
25							-	-	-	-	.09	-
26							-	-	-	-	.09	-
27							61.3	60.8	50.8	48.0	.48	31.75
28							62.9	60.5	48.5	47.0	.24	-
29							63.0	50.3	46.9	46.6	29.37	-
30							61.6	55.9	48.8	46.9	-	-
31												
Mean							-	-	-	-	-	-

Table 10 (cont'd)

AMBROSE LIGHTSHIP 40°27.1'N. 73°49.4'W. Depth of water - 95 feet

1958

	July						August					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	63.9	53.9	47.6	46.7	29.24	-	71.2	61.7	56.0	53.8	30.34	-
2	63.4	47.7	46.1	-	29.05	-	70.9	61.7	59.0	54.2	29.88	-
3	65.2	49.3	46.7	46.2	28.99	-	70.4	60.3	58.9	54.2	.17	-
4	63.6	47.7	46.2	46.0	29.27	32.27	70.9	65.9	57.3	52.9	29.11	-
5	67.7	49.4	46.9	46.6	.47	-	71.8	64.9	57.8	50.8	30.12	-
6	66.2	64.3	50.1	49.0	29.14	-	71.1	62.9	57.9	53.8	28.78	-
7	70.2	68.0	51.9	50.1	30.48	-	-	-	-	-	29.18	-
8	70.5	64.1	53.2	-	29.83	-	72.7	59.8	56.1	51.0	29.87	31.89
9	70.1	64.0	54.2	52.8	30.07	-	71.8	57.6	56.1	-	30.07	-
10	70.1	57.9	52.3	49.9	30.09	-	72.1	63.8	57.6	46.9	29.11	-
11	70.2	59.0	52.0	48.5	27.34	29.16	73.7	59.8	55.7	47.0	28.73	-
12	69.9	54.7	51.7	48.0	28.49	-	72.7	59.2	54.1	47.5	30.41	-
13	67.1	53.2	48.1	-	.62	-	72.2	59.1	54.8	48.8	30.28	-
14	65.6	51.5	48.2	46.2	28.93	-	70.7	58.6	53.2	49.0	29.54	-
15	70.6	53.0	47.8	46.2	29.31	-	66.8	57.1	52.0	49.7	.56	30.14
16	72.8	53.2	50.0	47.2	.33	-	-	-	-	-	.74	-
17	73.1	53.2	50.6	48.1	.62	-	72.2	68.9	60.0	54.2	.79	-
18	70.6	50.7	47.1	46.5	29.88	31.92	68.8	59.0	53.9	51.2	29.80	-
19	68.2	-	49.8	49.5	30.20	-	64.1	59.0	51.0	-	30.42	-
20	58.7	51.6	47.9	47.9	30.40	-	67.9	63.0	54.7	49.1	30.14	-
21	62.2	52.0	48.3	45.5	29.60	-	68.9	59.3	53.1	48.2	-	-
22	60.9	54.6	51.0	48.1	.56	-	69.7	65.7	52.1	48.8	30.89	32.66
23	63.9	54.3	53.4	-	.79	-	70.1	62.9	53.1	48.8	.89	-
24	64.9	53.5	53.4	52.5	.64	-	70.7	64.5	53.7	49.1	.74	-
25	69.3	59.4	53.2	52.2	.66	31.69	70.8	70.7	59.1	-	.72	-
26	69.2	58.2	53.5	-	29.77	-	70.9	70.8	59.8	52.8	.95	-
27	71.7	61.9	54.1	53.9	30.16	-	69.9	69.6	57.2	53.2	.77	-
28	-	-	-	-	.32	-	68.1	66.8	60.0	53.5	.78	-
29	71.6	61.6	55.6	55.1	.62	-	66.3	66.2	66.1	54.8	.92	31.50
30	73.4	58.9	55.1	53.6	.35	-	67.3	66.2	65.9	58.2	30.96	-
31	72.2	56.3	54.3	-	30.52	-	68.9	67.2	65.3	56.7	29.97	-
Mean	67.9	55.8	50.7	49.0	29.60	31.26	70.1	63.2	56.9	51.5	30.05	31.55

Table 10 (cont'd)

AMBROSE LIGHTSHIP 40°27.1'N. 73°49.4'W. Depth of water - 95 feet

1958

	September						October					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	69.0	67.9	63.3	55.1	30.44	-	-	-	-	-	30.41	-
2	67.6	67.1	-	-	.35	-	61.8	61.8	61.3	53.8	.76	-
3	68.0	67.9	62.4	50.8	.21	-	61.8	61.8	61.7	54.2	.77	31.82
4	68.5	68.2	63.3	-	30.20	-	61.7	61.7	61.7	55.8	30.86	-
5	68.9	68.2	65.9	55.1	29.41	31.45	60.1	60.4	60.3	56.1	29.91	-
6	68.8	68.0	64.1	52.7	30.21	-	60.0	60.1	60.1	53.3	31.26	-
7	-	-	-	-	.05	-	60.1	60.2	60.2	56.2	30.37	-
8	69.9	69.3	61.2	53.0	.23	-	60.3	60.3	59.9	55.1	.30	-
9	68.3	68.2	59.0	49.0	.54	-	-	56.9	56.7	-	.54	-
10	67.8	60.4	54.1	48.8	.60	-	60.9	60.3	60.1	57.0	.15	31.28
11	61.9	61.9	49.7	47.8	.31	-	60.3	60.3	60.9	56.3	30.84	-
12	65.6	63.2	48.1	47.2	.72	32.27	59.3	59.3	58.5	51.2	31.06	-
13	61.2	59.1	50.6	46.9	.44	-	59.0	59.0	58.3	50.3	.07	-
14	63.0	58.8	52.3	47.2	.67	-	58.4	58.8	57.0	50.3	31.00	-
15	63.6	58.9	47.3	46.7	.90	-	56.7	56.3	54.7	51.2	29.92	-
16	61.2	51.0	47.2	46.9	30.46	-	57.1	57.2	56.7	51.9	.48	-
17	-	-	-	-	31.32	-	58.7	57.4	56.5	52.5	29.70	32.00
18	65.1	64.6	59.0	-	32.08	-	57.8	57.8	54.1	51.9	30.53	-
19	65.3	65.2	-	-	30.26	31.26	57.9	57.8	55.0	50.8	.62	-
20	62.0	60.1	59.4	58.7	-	-	57.6	57.5	56.9	52.4	.72	-
21	62.8	61.6	60.9	56.2	31.34	-	57.6	57.7	57.8	-	.92	-
22	61.7	61.6	60.5	58.5	.19	-	57.6	57.5	57.6	57.8	30.92	-
23	62.1	61.5	60.2	54.7	.45	-	57.6	57.4	57.4	57.4	31.01	-
24	62.1	61.6	60.6	55.0	31.21	-	57.4	57.1	57.2	57.2	.18	31.18
25	63.2	63.2	60.1	57.5	30.39	-	58.7	58.7	58.8	58.8	.41	-
26	63.9	62.9	60.0	52.1	30.27	32.04	57.7	57.7	57.8	57.9	.46	-
27	65.2	61.8	57.0	50.5	29.62	-	57.0	56.9	57.0	57.1	31.34	-
28	-	-	-	-	31.11	-	56.7	57.9	57.9	58.0	29.26	-
29	63.2	63.1	63.1	54.7	31.12	-	56.3	56.6	57.3	57.0	30.72	-
30	62.9	63.2	63.3	57.9	30.43	-	55.5	55.9	56.1	56.8	30.01	-
31							54.9	55.8	56.1	56.8	28.49	31.72
Mean	64.9	63.3	58.1	52.3	30.60	31.76	58.5	58.5	58.1	54.8	30.55	31.60

Table 10 (cont'd)

AMBROSE LIGHTSHIP 40°27.1'N. 73°49.4'W. Depth of water - 95 feet

1958

	November						December					
	Temperature °F				Salanity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	54.5	55.2	56.3	56.3	28.78	-						
2	52.7	52.9	53.8	54.7	30.10	-						
3	51.7	51.7	52.1	53.5	.44	-						
4	52.1	52.2	52.9	-	30.70	-						
5	51.5	52.4	53.2	53.9	24.79	-						
6	53.3	53.7	54.1	54.1	29.34	-						
7	53.5	54.0	54.7	-	.69	29.84						
8	52.9	53.4	54.8	54.8	29.61	-						
9	52.7	54.0	54.5	54.6	28.16	-						
10	53.0	53.0	54.2	54.1	29.70	-						
11	53.0	53.0	53.1	54.1	30.30	-						
12	52.7	53.0	54.0	54.0	29.61	-						
13	52.9	53.0	54.0	-	28.54	-						
14	53.0	53.6	53.8	-	29.51	32.49						
15	53.0	53.8	53.0	-	29.57	-						
16	53.2	53.8	53.2	-	28.65	-						
17	53.0	54.0	54.1	54.0	29.05	-						
18	53.0	52.8	53.0	53.8	.07	-						
19	53.4	53.5	53.8	54.2	.76	-						
20	50.3	51.2	51.9	51.9	29.44	-						
21	52.8	53.0	53.8	53.8	30.28	32.24						
22	52.0	52.1	52.6	52.1	30.60	-						
23	50.7	50.5	51.5	51.8	31.08	-						
24	51.2	52.0	52.2	53.0	29.95	-						
25	51.1	51.3	51.5	53.3	31.30	-						
26	51.2	51.2	51.2	53.0	.54	-						
27	50.7	50.9	51.0	52.9	31.44	-						
28	49.8	50.0	50.2	53.0	-	32.62						
29	49.1	49.3	49.6	-	31.03	-						
30	-	-	-	-	-	-						
Mean	52.2	52.6	53.0	53.7	29.72	31.80						

Texas Tower #4, off New York (Figure 11, Table 11)

The surface temperature readings at Texas Tower #4, near the head of Hudson Canyon, began in October. The readings fall below the mean values for Ambrose Lightship by some 2°F.

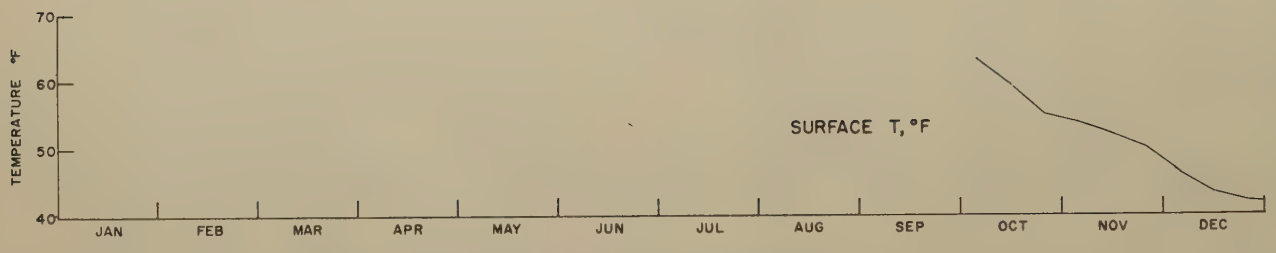

Figure 11. Texas Tower #4 (off New York) 1958

Table 11

TEXAS TOWER #4
off NEW YORK

39°48.4'N. 72°40.6'W.

Surface Temperature °F

1958

Month / Day	Oct. Temp.	Nov. Temp.	Dec. Temp.
1	65	54.	48
2	64.5	54.2	48
3	64	54	48
4	64	54.2	47
5	63	54	46
6	63	54	45.5
7	62.2	53.2	45
8	62	53	45
9	61.2	53	45
10	61	53	45
11	61	52.2	44
12	60	51.5	44
13	60	51	44
14	60	51	43
15	59	51	43
16	59	51	43
17	59	51	43
18	59	50.5	43
19	58	50	43
20	56.5	50	43
21	56	50	42
22	56	50	42
23	56	50	42
24	55.8	50	42
25	55	50	41.8
26	55	50	42
27	54	50	42
28	54	50	42
29	54	50	42
30	54	49.2	42
31	54		42
Mean	58.9	51.5	43.8

Barnegat Lightship (Figure 12, Table 12)

The winter minimum at Barnegat was 35.4°F during the last 10 days of February; this was some 4.5°F below the mean for the period of record. Vernal warming was slow and lagged behind the mean. Late July and early August were near normal. The sharp depression in temperature in mid-July was seen most strongly at the surface, while temperatures at the bottom showed little change; a similar drop occurred at the same time at Five Fathom Bank, Winter Quarter and Chesapeake stations. At the latter two stations there was chilling at the bottom with indications of upwelling. As in previous years (Bumpus, 1956, and Day, 1957), this appearance of relatively cold water during the summer occurs when a preponderantly south or southwest wind regime becomes established. Such a wind regime drives the warmer surface water offshore; and if the wind pattern persists an intrusion of cold offshore water appears at depth. As this phenomenon was seen each summer since the present observational program was instituted in 1956, and since southwesterly winds are "normal" for the summer months, it is probably safe to assume upwelling of sorts can be expected to occur between Cape Hatteras and New York at some time during the summer. This is essentially what Bumpus surmised two years ago. The extent of chilling through upwelling would depend upon the duration and strength of the southwesterlies in any one year.

Surface salinity through March was high, close to the 1957 values. Beginning in April salinity declined and remained below the 1956 and 1957 readings for the rest of the year. After June bottom samples were taken so infrequently that they are not shown in the running plot.

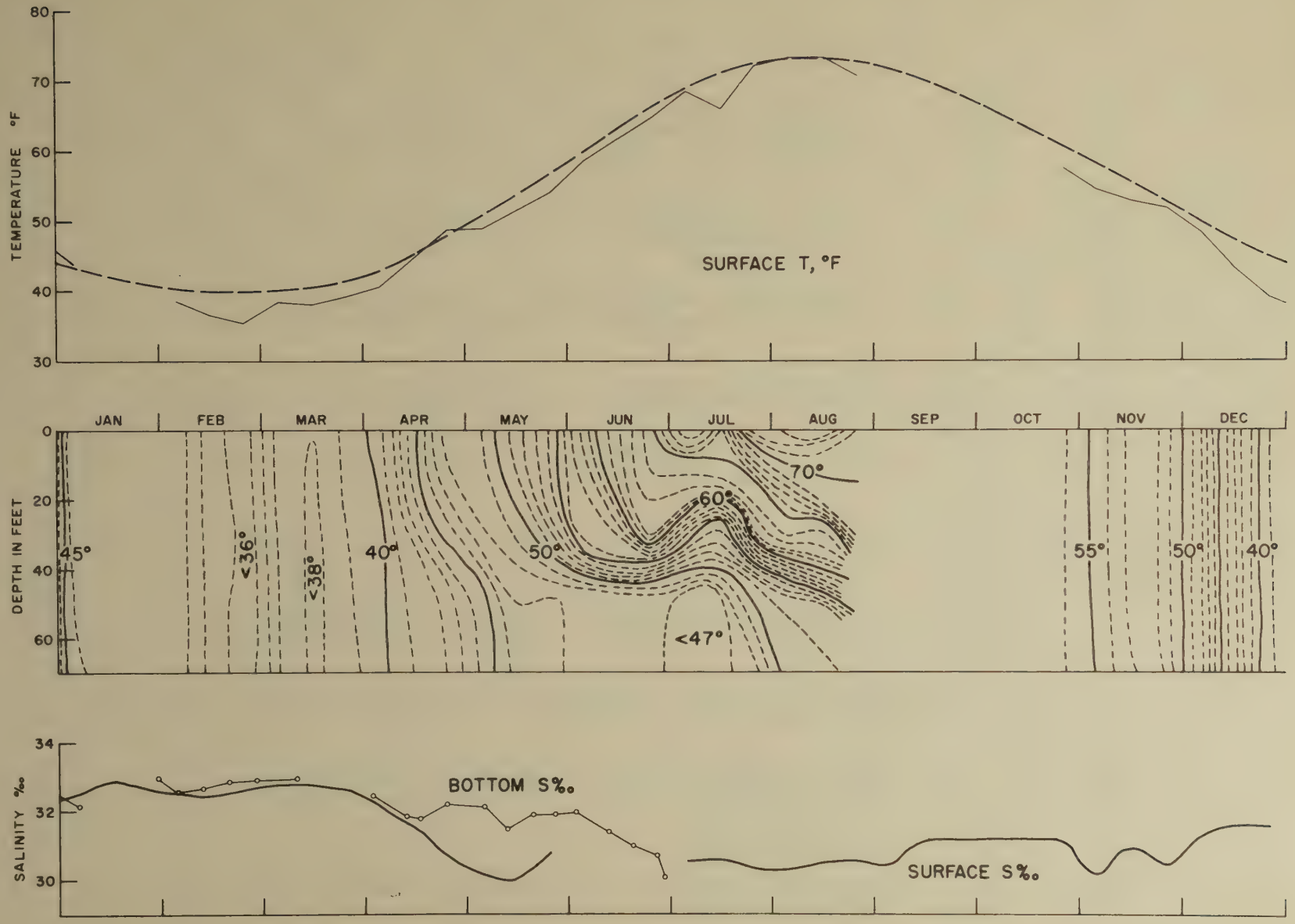

Figure 12. Barnegat Lightship, 1958. (Dashed line in upper diagram, mean for period 1947-1956)

Table 12

BARNEGAT LIGHTSHIP 39°45.8'N. 73°56.0'W. Depth of water - 72 feet

1958

	January						February					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	70'	0'	70'	0'	30'	50'	70'	0'	70'
1	46.0	46.0	46.2	46.3	32.52	-	-	-	-	-	-	-
2	45.2	45.3	45.7	46.8	-	-	-	-	-	-	-	-
3	45.0	45.0	45.0	46.8	-	-	39.9	39.9	39.9	40.3	32.37	-
4	44.1	44.2	44.2	44.3	-	-	-	-	-	-	-	-
5	43.1	43.2	43.2	43.2	32.15	-	39.0	38.5	38.2	38.1	32.39	32.53
6	43.0	43.1	43.3	44.9	32.15	32.17	38.3	38.2	38.3	38.4	32.56	-
7	43.1	43.8	43.4	45.1	-	-	-	-	-	-	-	-
8	42.6	42.6	42.6	42.7	32.52	-	39.5	39.8	39.8	39.8	32.94	-
9	42.0	42.1	42.1	42.1	.64	-	-	-	-	-	-	-
10	43.9	44.0	44.1	44.2	.96	-	36.0	36.1	36.1	36.4	32.26	-
11	41.5	41.9	42.1	43.8	.48	-	37.0	36.9	36.9	36.9	.38	-
12	-	-	-	-	32.80	-	36.9	36.8	36.9	36.9	.34	32.63
13	-	-	-	-	33.12	-	37.2	37.1	37.1	37.1	.54	-
14	-	-	-	-	33.13	-	36.3	36.3	36.3	-	.42	-
15	-	-	-	-	-	-	-	-	-	-	32.17	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	32.44	-
19	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	32.73	-	35.0	34.9	-	-	32.81	32.82
21	-	-	-	-	32.69	-	34.9	34.8	34.8	34.8	.76	-
22	-	-	-	-	-	-	33.2	33.3	34.3	35.2	.33	-
23	-	-	-	-	32.48	-	35.9	35.7	35.7	35.6	.96	-
24	-	-	-	-	32.72	-	35.9	35.0	35.1	35.1	.68	-
25	-	-	-	-	-	-	35.0	35.0	35.0	36.2	.49	-
26	-	-	-	-	32.51	-	34.7	33.7	33.9	35.2	32.22	-
27	-	-	-	-	.53	-	-	-	-	-	-	-
28	-	-	-	-	.76	-	38.5	37.9	37.9	37.9	32.80	32.89
29	-	-	-	-	.82	32.99						
30	-	-	-	-	.80	-						
31	-	-	-	-	32.44	-						
Mean	-	-	-	-	32.65	-	36.7	36.5	36.6	36.9	32.52	32.72

Table 12 (Cont'd)

BARNEGAT LIGHTSHIP 39°45.8'N. 73°56.0'W. Depth of water - 72 feet

1958

	March						April					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	70'	0'	70'	0'	30'	50'	70'	0'	70'
1	37.6	38.0	38.0	38.1	32.76	-	39.2	39.0	39.0	38.9	32.44	-
2	39.0	38.5	38.1	38.1	.98	-	39.8	39.3	39.1	39.0	.44	32.43
3	39.0	38.3	38.1	38.1	.84	-	39.9	39.6	39.2	39.2	.35	-
4	38.0	38.1	38.1	38.1	32.74	-	40.6	39.0	38.9	38.9	.40	-
5	38.3	38.1	37.9	37.9	-	-	40.2	39.0	38.7	38.7	32.33	-
6	39.1	38.7	38.5	38.3	32.80	-	-	-	-	-	-	-
7	38.9	38.5	38.5	38.5	.70	-	42.6	41.1	40.7	40.4	31.23	-
8	38.1	38.1	38.0	38.0	.74	-	40.7	40.7	40.2	40.1	.38	-
9	38.2	37.8	37.4	37.3	.74	-	40.5	40.1	40.1	40.0	.77	-
10	38.0	37.8	37.7	37.7	.67	32.92	41.1	40.3	40.2	40.0	31.93	-
11	-	-	-	-	.66	-	-	-	-	-	-	-
12	37.8	37.7	37.7	37.6	.71	33.85	40.5	39.8	39.7	39.2	31.84	31.82
13	38.2	37.4	37.4	37.5	32.71	-	40.5	39.9	39.8	39.3	.88	-
14	-	-	-	-	-	-	41.9	40.0	39.8	39.8	31.74	-
15	37.7	37.7	37.6	37.7	32.73	-	-	43.0	42.7	42.7	29.96	-
16	37.5	37.2	37.7	37.8	.55	-	44.8	42.8	42.6	42.1	31.41	31.77
17	38.3	37.9	37.8	37.8	.82	-	45.9	44.2	42.9	42.3	.66	-
18	38.8	37.9	37.8	37.8	32.77	-	46.2	44.6	42.6	41.7	.61	-
19	-	-	-	-	-	-	49.8	44.1	42.9	42.0	.52	-
20	-	-	-	-	-	-	48.8	44.9	42.2	41.9	31.43	-
21	38.1	38.4	39.1	39.1	-	-	47.3	43.0	41.1	40.9	30.74	-
22	38.8	38.7	38.7	38.7	32.51	-	-	-	-	-	31.49	-
23	38.0	37.9	37.9	37.8	.63	-	46.2	43.9	41.9	41.9	.39	-
24	39.7	39.2	38.8	38.8	.66	-	50.7	46.0	42.9	42.8	31.36	32.19
25	38.9	39.1	38.5	38.2	32.66	-	49.6	44.0	42.8	42.8	30.82	-
26	-	-	-	-	-	-	49.8	44.5	42.9	42.9	30.94	-
27	-	-	-	-	-	-	49.8	48.1	42.8	42.8	31.25	-
28	39.5	39.1	39.0	38.9	-	-	48.0	47.7	42.0	41.9	-	-
29	40.2	39.3	39.3	39.3	32.53	-	50.1	46.8	41.8	41.8	30.26	-
30	-	-	-	-	-	-	48.6	47.5	41.8	41.9	27.05	-
31	40.2	40.2	39.2	39.0	-	-						
Mean	38.5	38.3	38.2	38.2	32.71	-	44.7	42.7	41.2	41.0	31.36	32.05

Table 12 (Cont'd)

BARNEGAT LIGHTSHIP 39°45.8'N. 73°56.0'W. Depth of water - 72 feet

1958

	May						June					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	70'	0'	70'	0'	30'	50'	70'	0'	70'
1	48.9	48.5	41.3	41.2	30.21	-	58.9	51.5	47.8	47.7	29.67	-
2	50.0	48.1	41.3	41.2	29.19	-	52.2	52.0	46.8	47.1	31.34	31.92
3	-	-	-	-	30.28	-	58.2	57.9	48.2	48.1	30.74	-
4	50.1	47.7	41.9	41.9	29.93	-	59.7	58.8	48.3	48.3	.64	-
5	50.7	47.9	41.9	41.9	29.56	32.10	61.0	59.6	48.3	48.3	.67	-
6	48.3	48.1	48.2	48.0	30.85	-	59.1	59.2	48.7	48.6	30.42	-
7	48.4	48.5	-	-	29.33	-	60.9	59.3	48.9	47.4	-	-
8	47.1	47.0	46.9	46.9	30.99	-	59.6	59.2	47.7	47.4	-	-
9	49.0	47.0	46.9	46.9	29.44	-	57.0	55.3	46.4	46.3	-	-
10	48.7	47.8	46.9	46.6	30.72	-	59.9	56.4	48.1	47.9	-	-
11	49.4	48.4	46.1	46.1	29.27	-	61.2	56.8	48.3	47.0	-	-
12	52.0	49.1	45.9	45.8	.04	31.46	61.4	58.8	47.1	47.1	-	31.38
13	51.1	47.3	45.9	45.9	.15	-	63.6	58.6	47.2	47.2	-	-
14	51.7	48.8	-	-	29.61	-	60.9	48.2	47.6	47.4	-	-
15	50.6	49.3	46.1	46.0	30.89	-	62.3	47.9	47.6	47.3	-	-
16	50.2	50.1	46.7	46.7	31.24	-	62.4	61.2	47.2	47.1	-	-
17	50.2	49.5	49.2	46.7	30.57	-	62.4	61.0	48.1	47.8	-	-
18	54.0	49.9	49.2	47.2	28.74	-	61.0	59.7	46.1	45.4	-	-
19	50.8	46.6	45.9	45.9	30.17	31.84	61.9	60.5	47.7	47.6	-	30.95
20	56.3	52.9	48.1	47.9	.80	-	-	-	-	-	-	-
21	53.2	50.2	46.1	46.1	.49	-	-	-	-	-	-	-
22	52.8	50.1	46.2	46.1	.95	-	62.1	61.6	47.7	47.0	-	-
23	51.1	50.4	46.5	46.3	.79	-	62.8	62.3	47.2	47.2	-	-
24	49.7	48.3	44.0	44.9	.97	-	65.1	61.9	48.2	47.7	-	-
25	52.0	47.7	44.8	44.9	.84	-	63.0	61.0	46.4	46.1	-	-
26	54.7	49.8	47.7	47.2	.78	31.83	64.7	63.8	47.7	47.5	-	30.67
27	55.1	52.5	47.4	47.8	.77	-	64.7	61.9	47.2	47.2	-	-
28	54.9	54.1	48.1	48.0	.95	-	67.0	-	47.1	47.1	-	30.08
29	56.2	52.5	47.9	47.9	.49	-	66.8	63.7	47.8	47.8	-	-
30	57.9	54.7	47.9	47.9	.61	-	68.3	62.6	47.7	47.7	-	-
31	57.8	55.3	47.7	47.2	30.23	-						
Mean	51.8	49.6	46.2	46.0	30.25	31.81	61.7	58.5	47.6	47.4	-	31.00

Table 12 (Cont'd)

BARNEGAT LIGHTSHIP 39°45.8'N. 73°56.0'W. Depth of water - 72 feet

1958

	July						August					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	70'	0'	70'	0'	30'	50'	70'	0'	70'
1	69.6	56.9	47.8	47.8	30.63	-	72.9	59.0	51.1	50.0	29.88	-
2	69.1	48.2	47.7	47.7	-	-	72.1	65.6	50.8	50.3	30.03	-
3	67.2	51.1	47.8	47.6	-	-	73.4	65.9	51.8	51.2	.16	-
4	66.3	55.8	44.1	44.1	30.50	-	74.5	72.0	52.6	51.7	.43	-
5	64.2	47.9	44.7	44.7	.64	-	-	74.1	53.0	-	.63	-
6	65.9	47.3	46.2	46.2	.81	-	-	-	-	-	.42	-
7	71.1	64.0	47.2	47.0	.69	-	72.4	71.9	50.4	49.8	.42	-
8	70.6	60.1	46.8	46.8	.34	-	74.9	-	-	-	.31	-
9	69.0	59.0	44.9	44.2	.42	-	72.1	55.5	49.9	48.8	.45	-
10	70.1	61.1	45.1	45.1	30.14	-	74.2	54.6	51.0	50.0	.52	-
11	71.1	65.6	47.3	46.7	29.86	-	74.8	65.2	51.6	50.8	.54	32.09
12	64.2	52.5	46.8	46.9	30.60	-	74.3	60.9	50.7	50.2	.36	-
13	61.9	50.1	46.9	46.9	.72	-	72.9	55.6	50.3	49.9	.37	-
14	65.1	47.9	46.8	46.8	.50	-	73.2	55.0	50.1	49.5	.47	-
15	60.4	-	46.8	46.8	.91	-	71.1	51.6	50.1	50.1	.56	-
16	-	-	-	-	.86	-	73.1	66.9	51.9	51.5	.32	-
17	64.2	50.2	47.1	46.8	.86	31.02	73.2	68.9	51.6	51.0	.50	-
18	67.1	51.9	46.9	46.8	.79	-	73.1	67.3	51.6	51.0	.52	-
19	70.2	49.0	46.7	46.5	.26	-	-	72.1	51.9	51.4	.61	-
20	69.5	63.0	46.8	46.6	.46	-	73.8	71.9	54.6	50.7	.61	-
21	69.6	62.1	47.7	47.0	.97	-	72.9	70.6	-	-	.61	-
22	69.2	68.8	48.1	47.3	.57	-	71.3	68.9	51.1	50.8	.70	-
23	70.6	62.1	48.0	46.9	30.33	-	73.2	70.5	51.1	50.8	.72	-
24	-	-	-	-	-	-	71.9	70.4	51.6	51.1	.76	-
25	70.1	56.0	46.3	46.1	30.32	-	70.9	71.3	50.9	50.5	.58	-
26	73.1	-	-	-	.25	-	71.3	70.9	51.6	51.5	.54	-
27	73.1	55.3	48.8	48.2	.33	-	70.3	70.3	53.8	53.1	.34	-
28	72.3	60.2	49.0	48.6	.39	-	66.3	66.3	65.6	51.7	.33	-
29	75.2	68.4	52.2	49.0	.43	-	69.7	68.8	68.7	-	.46	30.45
30	73.6	71.1	50.8	48.5	30.41	-	67.8	67.2	65.8	-	.57	-
31	74.2	61.1	50.6	49.9	29.76	-	-	-	-	-	30.33	-
Mean	69.0	57.3	47.4	46.9	30.49	-	72.3	66.0	53.2	45.1	30.45	-

Table 12 (Cont'd)

BARNEGAT LIGHTSHIP 39°45.8'N. 73°56.0'W. Depth of water - 72 feet

1958

	September						October					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	70'	0'	70'	0'	30'	50'	70'	0'	70'
1					30.34						-	
2					.42						31.22	
3					.55						.14	
4					.40	30.44					.14	
5					.15						.15	
6					.34						.16	
7					.64						.21	
8					.64						.13	
9					.53						.14	
10					30.83						.09	31.14
11					31.09						.13	
12					31.12						.18	
13					30.80						.25	
14					31.15						.31	
15					.16						.34	
16					.21						.22	
17					.20	31.48					.11	
18					.23						.15	
19					.23						.15	
20					.25						.23	
21					.28		58.9	58.7	58.7	58.7	.29	
22					.05		-	-	-	-	.36	
23					.06		-	-	-	-	.20	
24					.17		60.2	59.0	58.9	58.8	.18	
25					.05		-	-	-	-	.02	
26					.06		57.4	57.3	57.4	57.6	.11	
27					31.15		56.9	56.9	56.8	57.1	.06	
28					-		57.1	56.8	56.9	56.9	.18	
29					31.17		56.1	56.1	56.1	56.0	31.36	
30					31.16		-	-	-	-	30.85	31.26
31							55.9	55.7	55.9	56.2	30.84	
Mean					30.91		-	-	-	-	31.16	

Table 12 (Cont'd)

BARNEGAT LIGHTSHIP 39°45.8'N. 73°56.0'W. Depth of water - 72 feet

1958

	November						December					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	70'	0'	70'	0'	30'	50'	70'	0'	70'
1	55.1	55.2	55.9	55.9	29.91		50.2	50.2	50.3	50.3	31.22	
2	-	-	-	-	-		49.7	49.9	50.0	50.1	.28	
3	-	-	-	-	31.60		49.9	50.0	49.9	49.9	.27	
4	55.7	55.6	55.3	55.3	31.73		49.7	49.8	49.8	49.8	.23	
5	55.1	55.7	55.5	55.4	-		50.0	49.9	50.0	50.0	.26	
6	54.8	55.7	55.8	55.7	28.80	31.76	-	-	-	-	.19	
7	55.0	54.9	55.7	55.8	29.05		47.3	47.4	47.5	47.6	.10	
8	54.1	53.1	53.1	54.1	31.36		46.2	46.3	46.7	48.0	.20	
9	52.9	52.2	53.4	54.1	29.83		46.6	47.0	47.1	47.2	.51	
10	52.1	52.2	53.3	54.0	29.11		45.8	46.3	46.4	46.4	.48	
11	53.1	53.1	53.0	53.0	30.28		45.9	46.0	46.1	46.1	.52	
12	52.1	52.2	52.3	52.9	31.00		43.7	44.0	44.0	44.1	.56	
13	52.2	52.8	53.0	53.1	.18		43.7	44.0	44.1	44.1	.62	
14	53.0	53.0	53.0	53.7	31.21		43.7	44.0	44.1	44.3	.55	
15	52.2	52.1	52.8	53.2	29.78		42.4	43.1	43.2	43.3	.67	
16	52.3	52.5	52.3	52.8	31.10		43.8	43.7	43.8	43.8	.64	
17	53.6	53.2	53.3	53.5	.70		42.2	42.3	42.4	42.6	.36	
18	53.4	52.8	52.8	52.8	.39		41.9	41.8	41.8	41.8	.42	
19	53.3	52.7	52.9	-	31.10		41.8	41.8	41.9	41.8	.52	
20	52.6	52.4	52.4	53.1	30.30	31.20	41.2	40.9	40.9	40.9	.41	
21	51.9	52.0	52.1	52.5	.95		40.9	40.9	40.9	40.9	.56	
22	52.9	52.8	52.7	53.1	30.95		40.6	40.1	40.2	40.3	.57	
23	51.9	51.7	51.8	52.1	31.06		39.1	39.1	39.1	39.1	.46	
24	51.6	51.9	51.9	51.9	29.36		38.9	39.0	39.1	39.2	.32	
25	51.3	51.6	51.7	51.6	31.07		38.7	39.2	39.3	39.3	.53	
26	52.1	52.1	52.0	52.0	29.27		38.1	38.1	38.1	38.1	.56	
27	51.9	51.8	51.3	-	31.24		38.2	38.3	38.2	38.8	.57	
28	51.0	50.9	50.8	50.8	29.42		35.8	36.9	38.1	38.2	.11	
29	-	-	-	-	-		38.7	38.1	38.2	38.3	.51	
30	-	-	-	-	-		40.0	40.1	40.2	40.5	.81	
31							39.9	40.3	41.9	42.1	31.79	
Mean	53.0	52.9	53.1	53.4	30.53		43.2	43.3	43.4	43.6	31.45	

Five Fathom Bank Lightship (Figure 13, Table 13)

A cold winter, retarded vernal warming, a cool summer and cool autumn characterize the surface temperature pattern at Five Fathom Bank. The winter minimum of 35.3°F in late February was about 5° below the mean; the summer maximum of 73.1°F was "normal", though of brief duration. Surface temperatures in mid-July showed a depression; this had been preceded by slight cooling near the bottom in June. From July through the rest of the year the bathythermograph was not lowered all the way to the bottom and readings had to be made at 75 feet rather than at 85 feet. Nevertheless, the influence of hurricanes Daisy and Helene showed up clearly at the lesser depth; this sequence of events is commented on in the section on Bottom Temperature. Observations at this station became more and more sporadic as the autumn progressed and no means could be derived. What data there are are given in the table.

Early in January salinity values were higher than any previously seen at this station. They rapidly declined, however, and from late April on were generally lower than those for 1956 and 1957.

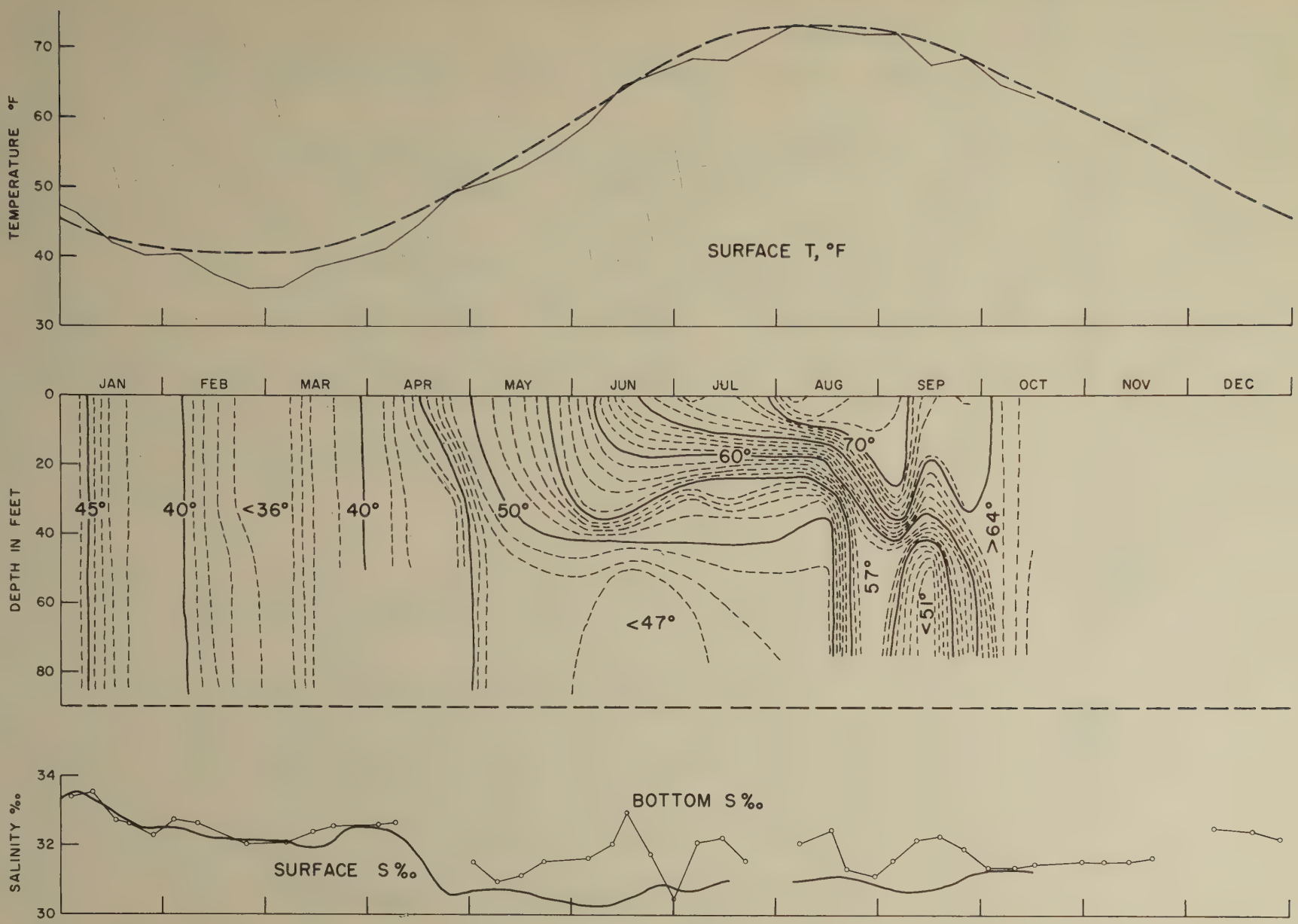

Figure 13. Five Fathom Bank Lightship, 1958. (Dashed line in upper diagram, mean for period 1947-1956)

Table 13

FIVE FATHOM BANK LIGHTSHIP 38°47.3'N. 74°34.6'W. Depth of water - 87 feet

1958

	January						February					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	85'	0'	85'	0'	30'	50'	85'	0'	85'
1	-	-	-	-	-	-	37.8	38.1	38.1	39.0	32.28	-
2	-	-	-	-	-	-	41.6	41.7	41.8	41.8	.65	-
3	48.0	48.1	48.1	48.1	33.41	33.40	41.8	41.6	41.5	41.8	.72	32.73
4	-	-	-	-	-	-	41.0	41.0	41.0	41.0	.65	-
5	-	-	-	-	-	-	40.2	40.4	40.9	41.0	.64	-
6	46.1	46.1	46.2	46.3	33.57	-	-	-	-	-	.55	-
7	46.2	46.3	46.4	46.6	33.74	-	40.0	39.5	40.0	40.4	.09	-
8	-	-	-	-	-	-	-	-	-	-	32.32	-
9	44.1	44.1	44.1	44.1	33.51	33.53	-	-	-	-	-	-
10	-	-	-	-	-	-	39.0	39.0	39.2	40.0	32.60	32.61
11	43.8	43.8	44.0	44.3	33.50	-	38.5	38.0	38.5	39.7	.36	-
12	42.7	42.8	42.9	43.3	.32	-	38.5	38.3	38.4	39.1	.27	-
13	43.3	43.3	43.3	43.3	.45	-	37.5	37.7	37.7	37.8	32.33	-
14	43.9	44.0	44.0	44.0	.38	-	36.8	36.8	37.2	38.0	31.99	-
15	43.1	43.1	43.2	43.3	33.14	-	37.6	37.9	38.5	38.8	32.54	-
16	41.8	41.8	41.8	-	32.74	32.74	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-
18	39.8	39.8	39.8	39.8	32.38	-	-	-	-	-	-	-
19	39.6	39.7	39.7	39.7	.37	-	-	-	-	-	-	-
20	39.0	39.0	39.1	39.2	.65	32.63	34.1	34.0	35.0	35.7	31.70	-
21	39.9	40.1	40.6	40.7	.56	-	35.0	35.0	35.1	36.1	32.11	-
22	40.5	40.8	41.0	41.1	.59	-	36.0	36.8	36.9	36.9	32.61	-
23	42.9	42.9	42.9	42.9	.73	-	34.8	34.8	36.7	37.3	31.97	-
24	-	-	-	-	.74	-	35.0	36.6	37.8	37.9	32.25	32.03
25	40.2	40.2	40.3	40.6	.67	-	35.9	36.2	36.4	37.3	.12	-
26	39.9	39.9	40.0	40.0	.48	-	36.4	36.7	37.9	38.0	.06	-
27	39.9	39.9	39.9	40.0	.28	32.30	35.7	35.9	36.0	36.2	32.15	-
28	39.1	39.1	39.2	39.3	.36	-	33.4	33.6	33.6	33.7	31.97	-
29	-	-	-	-	.31	-						
30	37.7	37.9	38.0	-	.26	-						
31	39.6	39.8	40.8	41.2	32.34	-						
Mean	41.9	41.9	42.1	42.4	32.85	32.92	37.5	37.6	38.0	38.5	32.30	-

Table 13 (cont'd)

FIVE FATHOM BANK LIGHTSHIP 38°47.3'N. 74°34.6'W. Depth of water - 87 feet

1958

	March						April					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	85'	0'	85'	0'	30'	50'	85'	0'	85'
1	-	-	-	-	-	-	40.3	40.4	40.5	40.5	32.62	-
2	34.9	34.7	34.6	34.6	32.12	-	-	-	-	-	-	-
3	34.8	34.8	34.8	34.8	.28	-	40.9	40.8	40.7	40.7	32.60	32.60
4	34.5	-	-	-	.11	-	41.4	40.5	40.6	40.6	.56	-
5	34.5	34.7	34.7	-	.14	-	41.0	40.9	40.8	40.8	.56	-
6	34.3	34.4	34.5	34.5	.10	32.10	41.3	41.1	41.0	-	.69	-
7	-	-	-	-	.10	-	41.0	40.7	-	-	.72	-
8	37.1	-	-	-	.10	-	-	-	-	-	32.68	32.66
9	37.0	-	-	-	.11	-	-	-	-	-	31.88	-
10	37.1	-	-	-	.15	-	-	-	-	-	31.78	-
11	38.3	37.8	37.8	38.0	32.23	-	-	-	-	-	-	-
12	37.9	38.1	38.0	37.9	31.89	-	45.9	42.9	-	-	31.51	-
13	38.1	38.0	-	-	31.80	32.37	43.7	42.2	41.9	-	.71	-
14	-	-	-	-	-	-	-	-	-	-	.46	-
15	-	-	-	-	-	-	44.6	42.8	41.9	-	.39	-
16	38.9	38.9	39.2	39.2	31.77	-	44.5	43.1	41.9	-	31.82	-
17	38.5	38.4	38.4	39.0	31.33	-	-	-	-	-	-	-
18	-	-	-	-	-	-	44.3	43.1	43.1	-	31.94	-
19	-	-	-	-	-	-	44.4	43.1	43.1	43.1	31.94	-
20	38.5	-	-	-	32.53	32.55	44.3	42.5	42.6	42.7	32.00	-
21	-	-	-	-	.38	-	-	-	-	-	-	-
22	38.3	38.3	38.2	-	.35	-	48.2	-	-	-	30.50	-
23	38.3	38.2	38.2	-	.38	-	48.2	42.1	41.8	41.8	.40	-
24	38.1	-	-	-	32.39	-	49.7	42.7	42.0	42.0	.39	-
25	-	-	-	-	-	-	50.0	43.0	-	-	.65	-
26	-	-	-	-	-	-	49.9	42.2	41.6	-	.64	-
27	-	-	-	-	-	-	48.9	43.0	-	-	.59	-
28	-	-	-	-	-	-	48.9	43.4	42.3	-	.47	-
29	41.5	39.9	39.9	40.0	32.67	-	48.9	43.5	42.3	42.2	30.46	-
30	41.3	40.0	40.0	-	.66	-	-	-	-	-	-	-
31	40.3	40.5	40.4	-	32.64	-						
Mean	37.6	-	-	-	32.19	-	45.3	42.2	41.8	-	31.60	-

Table 13 (cont'd)

FIVE FATHOM BANK LIGHTSHIP 38°47.3'N. 74°34.6'W. Depth of water - 87 feet

1958

	May						June					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	85'	0'	85'	0'	30'	50'	85'	0'	85'
1	50.4	48.2	44.9	-	30.53	31.51	57.2	54.1	44.3	-	30.27	-
2	50.7	46.8	45.2	-	.46	-	-	-	-	-	-	-
3	50.9	-	45.1	45.1	.61	-	-	-	-	-	-	-
4	52.0	50.2	45.1	-	.65	-	-	-	-	-	-	-
5	52.0	51.3	46.1	45.5	30.90	-	58.8	57.2	47.9	47.1	30.31	31.65
6	-	-	-	-	-	-	59.8	59.3	54.8	46.9	-	-
7	-	-	-	-	-	-	59.7	58.6	48.5	46.1	30.50	-
8	49.6	49.2	49.1	49.1	30.99	30.96	60.1	55.9	48.1	48.1	30.72	-
9	50.0	49.6	49.3	49.1	.98	-	58.2	52.0	45.2	44.8	29.29	-
10	49.6	49.3	49.1	49.1	30.89	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	50.3	48.5	48.2	48.2	31.07	-	-	-	-	-	-	32.06
13	-	-	-	-	-	-	64.1	48.1	46.8	46.1	30.33	-
14	-	-	-	-	30.90	-	64.1	51.7	46.9	46.4	.35	-
15	52.0	51.5	49.7	48.8	30.88	31.13	64.1	61.8	48.2	46.8	.18	-
16	-	-	-	-	-	-	64.2	55.0	46.9	46.8	.45	32.95
17	-	-	-	-	-	-	64.5	63.1	46.2	46.1	.34	-
18	-	-	-	-	-	-	65.2	58.5	46.9	46.9	.39	-
19	-	-	-	-	-	-	-	-	-	-	.42	-
20	55.1	51.5	45.0	43.9	29.96	-	-	-	-	-	30.53	-
21	55.0	53.0	44.4	43.9	30.36	-	66.9	53.4	51.2	-	31.02	-
22	-	-	-	-	.44	31.53	-	-	-	-	30.94	-
23	54.8	50.0	43.8	-	.50	-	-	-	-	-	.94	31.75
24	54.9	50.8	43.8	43.6	30.45	-	-	-	-	-	.98	-
25	-	-	-	-	-	-	-	-	-	-	.90	-
26	56.0	55.0	-	44.8	30.44	-	-	-	-	-	.78	-
27	-	-	-	-	-	-	-	-	-	-	30.31	-
28	-	-	-	-	-	-	-	-	-	-	32.11	-
29	-	-	-	-	-	-	-	-	-	-	30.53	-
30	56.7	55.5	47.3	45.9	30.58	-	-	-	-	-	30.26	30.49
31	-	-	-	-	-	-						
Mean	-	-	-	-	30.64	31.28	-	-	-	-	30.56	31.78

Table 13 (Cont'd)

FIVE FATHOM BANK LIGHTSHIO 38°47.3'N. 74°34.6'W. Depth of water - 87 feet

1958

	July						August					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	85'	0'	85'	0'	30'	50'	75'	0'	85'
1	69.8	62.5	49.6	-	30.41	-	68.3	49.8	48.2	48.0	31.12	-
2	64.2	47.7	47.3	-	.72	-	72.6	49.7	49.0	-	.01	-
3	65.8	48.1	47.4	-	.55	-	73.0	50.9	49.2	49.0	31.00	-
4	68.2	52.6	-	-	.39	-	72.6	50.1	49.2	49.1	30.87	-
5	69.0	54.3	-	-	.31	-	-	-	-	-	-	-
6	66.8	48.7	46.7	-	.72	-	74.5	52.0	50.9	50.9	30.90	-
7	68.8	50.9	49.3	-	.74	32.08	75.7	50.9	49.9	49.2	30.95	32.08
8	69.7	50.2	49.2	-	30.77	-	73.4	49.8	48.4	48.2	31.04	-
9	-	-	-	-	31.14	-	74.1	61.2	48.8	47.2	.03	-
10	70.6	49.0	-	-	30.77	-	74.0	49.2	48.1	47.4	.02	-
11	70.8	-	-	-	30.84	-	74.3	49.0	47.8	47.6	.14	-
12	66.8	50.2	48.1	-	31.39	-	74.5	52.0	48.5	48.2	.14	-
13	-	-	-	-	30.94	-	74.5	51.8	49.0	48.9	31.15	-
14	64.3	48.8	46.7	-	.93	32.23	-	-	-	-	-	-
15	66.7	48.2	-	-	.83	-	71.2	48.2	47.5	47.2	31.10	-
16	66.8	60.1	47.7	47.6	30.94	-	69.4	49.5	48.2	47.9	31.12	32.46
17	69.0	62.1	48.3	48.1	31.05	-	71.0	50.5	50.0	50.0	30.99	-
18	70.8	53.1	49.2	49.0	30.98	-	70.8	50.0	49.8	49.9	30.99	-
19	68.9	52.2	50.1	49.0	30.89	-	-	-	-	-	-	-
20	66.3	58.0	50.0	48.2	31.21	-	72.0	51.2	49.9	49.1	30.97	-
21	65.3	50.8	48.4	48.1	.55	31.55	71.8	51.6	49.9	49.1	31.10	31.35
22	-	-	-	-	.56	-	72.5	50.0	48.5	-	.23	-
23	66.1	56.1	50.1	50.0	.56	-	-	-	-	-	31.22	-
24	68.2	54.1	50.4	50.3	.33	-	-	-	-	-	-	-
25	68.8	52.2	50.7	50.7	31.18	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	69.1	65.9	50.8	50.7	30.62	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	71.9	71.0	69.0	67.0	31.02	31.14
30	-	-	-	-	-	-	72.0	69.5	67.3	-	30.96	-
31	-	-	-	-	-	-	-	-	-	-	-	-
Mean	-	-	-	-	-	-	-	-	-	-	31.03	31.76

Table 13 (Cont'd)

FIVE FATHOM BANK LIGHTSHIP 38°47.3'N. 74°34.6'W. Depth of water - 87 feet

1958

	September						October					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	75'	0'	75'	0'	30'	50'	75'	0'	75'
1	71.0	71.0	55.0	54.5	30.92	-	64.8	64.2	63.2	63.2	31.38	-
2	71.8	70.3	-	-	.98	-	63.3	63.4	63.4	63.4	.38	31.38
3	71.9	71.7	66.8	57.0	.88	-	64.7	64.7	64.7	64.8	.38	-
4	72.2	72.0	61.3	59.2	.82	31.61	64.8	64.8	64.9	64.9	.33	-
5	72.3	69.2	58.2	54.2	.84	-	64.7	64.7	64.7	64.7	.33	-
6	72.1	66.0	-	-	30.89	-	63.9	64.1	64.1	64.1	31.35	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	72.0	72.0	-	-	30.37	-	63.7	63.8	63.8	63.7	31.34	-
9	72.5	71.6	51.9	50.8	.37	-	-	-	-	-	-	-
10	69.0	61.0	49.4	49.0	30.79	-	64.2	64.0	63.9	63.9	31.34	31.33
11	67.3	67.1	49.5	49.0	-	32.21	-	-	-	-	-	-
12	67.3	65.1	52.0	49.5	30.84	-	-	-	-	-	-	-
13	68.0	60.0	52.3	51.0	.88	-	62.8	62.8	62.8	62.0	31.36	-
14	66.8	63.2	50.3	50.2	.83	-	62.8	62.9	62.9	62.9	.36	-
15	68.0	67.3	50.0	49.8	30.09	-	62.3	62.2	62.2	62.2	.49	-
16	-	-	-	-	-	-	62.9	62.6	61.9	60.9	.41	31.48
17	68.1	65.0	50.0	49.8	30.68	-	62.3	61.5	61.2	60.1	.09	-
18	67.0	53.5	50.9	50.6	30.57	32.32	62.3	62.4	60.9	59.8	.09	-
19	65.5	52.0	51.0	51.0	31.15	-	61.9	61.9	61.1	60.1	31.21	-
20	65.5	58.2	52.2	52.1	31.05	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	65.9	64.2	53.2	53.0	31.03	-	-	-	-	-	-	-
23	68.0	66.2	55.1	-	30.88	-	-	-	-	-	-	-
24	68.8	69.0	-	-	30.99	-	-	-	-	-	-	-
25	70.0	69.8	60.2	56.2	31.33	31.94	60.7	60.8	60.8	60.8	31.33	-
26	70.0	70.0	55.9	54.0	31.45	-	-	-	-	-	-	-
27	67.8	57.3	51.1	51.1	30.88	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	67.1	66.5	65.4	64.7	31.32	-	-	-	-	-	-	-
30	67.2	67.0	65.1	64.8	31.33	-	-	-	-	-	-	-
31							58.0	57.9	57.9	57.9	31.52	31.54
Mean	69.0	65.6	54.9	53.4	30.89	32.02	-	-	-	-	-	31.43

Table 13 (Cont'd)

FIVE FATHOM BANK LIGHTSHIP 38°47.3'N. 74°34.6'W. Depth of water - 87 feet

1958

	November						December					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	75'	0'	75'	0'	30'	50'	75'	0'	75'
1	57.9	57.7	57.4	57.4	31.58	-	52.2	52.6	53.0	53.0	31.71	-
2	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	50.8	50.9	51.1	51.8	31.48	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	56.0	56.1	56.2	-	31.39	-	-	-	-	-	-	-
6	56.2	56.2	56.4	56.4	.38	31.55	-	-	-	-	-	-
7	56.1	56.1	56.2	-	.37	-	-	-	-	-	-	-
8	55.9	55.9	55.9	55.9	.42	-	-	-	-	-	31.34	32.52
9	55.9	55.9	55.9	56.0	31.40	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
13	55.1	55.4	55.9	55.9	31.15	31.57	-	-	-	-	-	-
14	55.2	55.2	55.4	55.7	.23	-	-	-	-	-	-	-
15	55.3	55.3	55.6	55.7	31.25	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	55.5	55.3	55.3	55.3	31.35	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	45.8	46.0	47.0	47.2	32.18	32.41
20	55.3	55.3	55.3	55.9	31.48	31.66	-	-	-	-	-	-
21	55.9	55.9	56.0	56.1	-	-	-	-	-	-	-	-
22	54.8	54.8	55.6	55.9	31.53	-	-	-	-	-	-	-
23	54.7	54.7	54.8	55.8	31.39	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	43.0	43.0	43.0	43.0	32.21	32.20
28	53.4	53.7	53.8	53.8	31.63	-	44.6	45.0	45.1	45.2	32.55	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-
31							-	-	-	-	-	-
Mean	-	-	-	-	-	-	-	-	-	-	-	-

Winter Quarter Lightship (Figure 14, Table 14)

Relatively warm surface water temperatures in January gave way in late February to a minimum for the year of 35.0°F. This was 5°F below the mean. Warming was rapid and advanced beyond the mean in late April and May. Bathythermograph slides for the first half of June were lost in transit. After June, bottom temperatures were read at 85 feet, since this appeared the most consistent depth. (The lightship here apparently yaws over uneven bottom.) The summer depression in temperature throughout the water column appeared again in mid-July, after which surface values again advanced beyond the mean. The summer maximum of 75°F occurred early in August. The influence of the hurricanes in late August and September is again apparent. Chilling was rapid except during November.

As at Five Fathom Bank, salinities in January were above previous records, but by late April had dropped off sharply. They remained consistently below the 1957 readings. During July, August and September they were similar to the 1956 readings, but during the autumn they were lower.

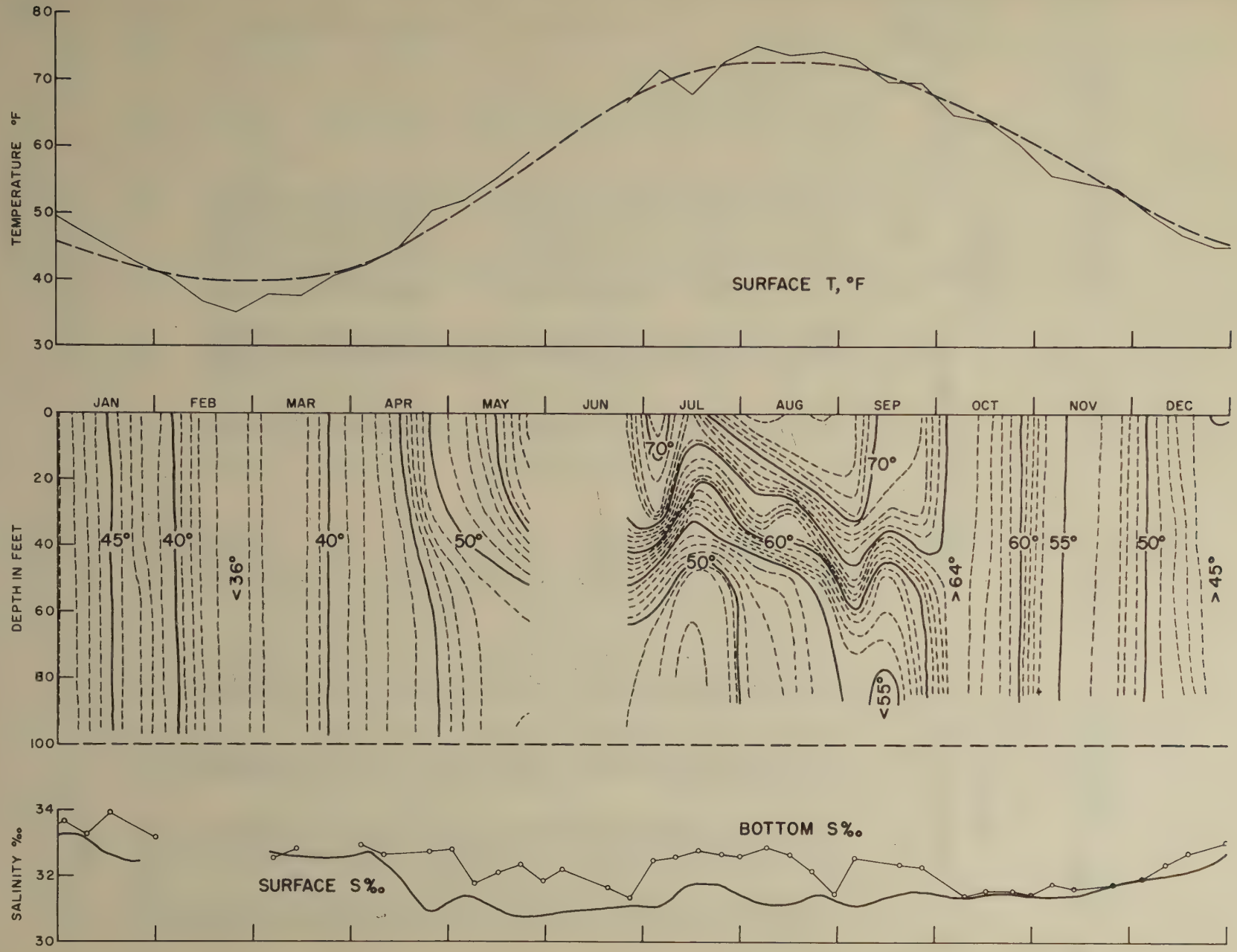

Figure 14. Winter Quarter Lightship, 1958. (Dashed line in upper diagram, mean for period 1925-1940)

Table 14

WINTER QUARTER LIGHTSHIP 37°55'05"N. 74°56'04"W. Depth of water - 96 feet

1958

	January						February					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	50.8	50.8	50.9	51.9	33.40	-	42.9	42.6	42.7	42.9	-	-
2	50.3	50.4	50.3	50.2	.48	33.68	-	-	-	-	-	-
3	50.1	50.1	50.2	50.9	.41	-	41.9	41.9	41.9	41.9	-	-
4	48.8	48.5	48.5	48.5	.24	-	-	-	-	-	-	-
5	47.1	47.2	47.2	47.2	.29	-	40.0	40.2	40.3	40.3	-	-
6	46.0	46.9	47.4	48.3	.02	-	39.0	40.0	40.7	40.8	-	-
7	47.4	47.7	48.4	48.4	.28	-	38.9	39.1	39.1	39.1	-	-
8	47.0	47.0	47.0	47.2	33.29	-	-	-	-	-	-	-
9	46.8	46.7	46.7	46.7	-	33.29	-	-	-	-	-	-
10	45.7	45.8	45.8	45.8	33.18	-	39.1	38.9	38.9	38.9	-	-
11	45.3	45.2	45.2	45.2	33.13	-	38.0	37.8	37.8	37.8	-	-
12	44.7	44.8	44.8	44.9	32.18	-	38.0	37.9	37.9	37.9	-	-
13	-	-	-	-	-	-	37.0	37.2	37.3	37.6	-	-
14	46.8	46.8	46.8	46.8	34.04	-	36.5	36.5	36.7	36.9	-	-
15	45.0	45.0	45.1	45.1	30.99	-	36.2	36.9	37.2	37.9	-	-
16	46.9	46.9	46.9	46.9	31.45	33.92	-	-	-	-	-	-
17	-	-	-	-	34.04	-	-	-	-	-	-	-
18	43.8	44.1	44.4	45.7	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	35.2	34.9	35.1	35.3	-	-
20	43.9	43.9	43.9	44.0	32.79	-	34.5	35.1	35.2	35.6	-	-
21	44.1	44.1	44.1	44.1	33.67	-	34.6	34.6	34.6	34.6	-	-
22	-	-	-	-	-	-	35.2	35.1	35.1	35.7	-	-
23	41.9	42.8	45.1	45.2	32.71	-	34.3	34.5	34.8	35.7	-	-
24	41.8	41.8	45.1	45.2	32.21	-	34.6	34.8	35.1	35.6	-	-
25	-	-	-	-	-	-	35.1	35.1	35.5	35.8	-	-
26	42.8	42.9	42.9	42.9	33.08	-	35.1	35.1	35.8	36.2	-	-
27	42.3	42.2	42.2	42.5	33.08	-	35.7	35.7	35.7	35.8	-	-
28	41.8	41.8	41.8	42.0	28.48	-	35.0	34.9	34.9	35.0	-	-
29	42.0	41.9	41.8	41.8	32.89	-						
30	41.9	41.9	41.9	42.5	.91	33.15						
31	41.9	41.9	41.9	42.1	32.92	-						
Mean	45.3	45.4	45.6	45.8	32.81	33.51	37.0	37.1	37.3	37.5	-	-

Table 14 (cont'd)

WINTER QUARTER LIGHTSHIP 37°55'05"N. 74°56'04"W. Depth of water - 96 feet

1958

	March						April					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	36.8	36.2	36.2	36.8	32.05	-	41.9	41.9	41.9	-	32.91	-
2	36.8	36.2	36.1	36.5	.52	-	41.8	41.8	41.7	41.7	.82	-
3	36.2	36.2	36.1	36.1	32.52	-	41.7	41.7	41.6	41.5	.72	32.94
4	38.0	38.0	38.0	38.1	33.06	-	42.2	41.9	41.9	41.9	.78	-
5	37.0	37.0	37.0	37.4	33.08	-	42.0	41.8	41.8	41.8	.88	-
6	38.3	37.8	37.9	38.0	32.58	32.57	42.2	42.1	41.7	41.7	.80	-
7	38.4	38.0	38.0	38.1	32.58	-	42.6	42.6	42.2	42.2	.74	-
8	38.5	38.3	38.2	38.1	33.00	-	43.1	42.8	42.7	42.6	.71	-
9	38.8	38.8	38.6	38.3	32.98	-	42.9	42.8	42.8	42.3	.60	-
10	38.0	37.9	37.9	37.9	.87	-	43.0	42.9	42.6	42.2	.04	32.63
11	37.8	37.8	37.7	37.8	.81	-	43.0	43.1	43.0	43.0	.54	-
12	38.2	38.2	38.2	38.2	.83	-	43.1	43.1	43.1	43.1	32.53	-
13	36.4	36.3	36.3	36.3	.83	32.82	44.2	43.8	43.2	43.1	31.14	-
14	37.7	37.7	37.6	-	.74	-	44.2	44.0	43.7	43.4	30.92	-
15	37.1	37.0	37.0	37.0	.55	-	44.4	44.1	43.5	43.1	30.76	-
16	37.0	37.0	37.0	-	32.59	-	46.2	43.6	43.2	43.2	32.51	-
17	37.6	37.6	37.6	37.7	31.89	-	-	-	-	-	-	-
18	38.0	37.7	37.5	37.3	32.33	-	-	-	-	-	-	-
19	37.8	37.8	37.8	37.9	32.53	-	46.0	44.8	44.8	44.8	32.71	-
20	-	-	-	-	-	-	47.0	45.4	44.3	44.2	32.55	-
21	39.1	39.1	39.1	-	32.08	-	48.4	47.8	44.7	44.2	30.63	-
22	39.5	39.6	39.6	39.8	32.05	-	49.0	47.1	44.8	44.6	.53	-
23	41.0	41.0	41.0	41.0	31.79	-	49.4	47.0	45.1	44.9	.72	-
24	40.4	40.3	40.1	40.1	31.95	-	50.6	49.0	45.2	45.0	.83	32.71
25	40.4	40.4	40.4	40.4	32.69	-	50.8	49.8	45.1	45.0	.92	-
26	40.1	40.1	40.1	40.0	32.99	-	50.9	50.3	45.3	45.1	30.91	-
27	-	-	-	-	-	-	51.1	50.8	47.0	45.1	31.03	-
28	39.8	39.8	39.8	39.8	32.62	-	50.8	50.8	44.9	44.8	.05	-
29	40.9	40.9	40.9	40.9	.89	-	50.3	50.3	44.8	44.8	.15	-
30	42.0	42.0	41.6	41.2	.99	-	51.4	50.9	45.0	44.8	31.28	-
31	41.9	41.8	41.6	41.5	32.97	-						
Mean	38.6	38.5	38.4	38.5	32.60	-	45.9	45.3	43.6	43.5	31.85	32.76

Table 14 (cont'd)

WINTER QUARTER LIGHTSHIP 37°55'05"N. 74°56'04"W. Depth of water - 96 feet

1958

	May						June					
	Temperature °F				Salinity °/oo		Temperature °F				Salinity °/oo	
Depth / Day	0'	30'	50'	95'	0'	95'	0'	30'	50'	95'	0'	95'
1	52.0	51.6	47.3	45.7	31.26	32.70	-	-	-	-	30.70	-
2	53.1	51.9	47.9	45.7	.26	-	60.8	57.8	46.9	46.5	30.88	-
3	53.2	52.3	46.9	46.0	.25	-	-	-	-	-	31.11	-
4	54.1	52.9	47.2	45.7	.34	-	-	-	-	-	30.88	-
5	53.0	49.5	45.8	45.2	.26	-	-	-	-	-	.99	32.20
6	49.8	49.8	49.5	48.0	.87	-	-	-	-	-	.75	-
7	50.6	49.4	49.4	49.1	.97	-	-	-	-	-	.74	-
8	49.6	49.3	49.1	48.9	31.79	31.79	-	-	-	-	.72	-
9	51.5	50.1	48.3	48.1	30.67	-	-	-	-	-	30.86	-
10	51.1	50.3	48.8	48.2	31.25	-	-	-	-	-	31.15	-
11	52.8	50.0	48.8	48.1	30.76	-	-	-	-	-	30.85	-
12	54.9	51.4	49.3	48.6	.27	-	-	-	-	-	.75	-
13	55.1	54.2	50.5	48.6	30.15	-	-	-	-	-	.73	-
14	55.0	53.7	49.9	48.8	31.26	-	-	-	-	-	30.83	-
15	56.0	51.0	49.8	48.9	.84	32.10	-	-	-	-	-	-
16	54.6	50.7	49.9	49.3	.44	-	65.8	64.2	53.5	46.7	31.08	-
17	54.3	52.5	50.5	49.0	.45	-	66.6	64.6	53.9	46.0	30.97	-
18	53.8	53.0	49.7	47.5	31.47	-	66.1	62.2	51.2	47.0	-	-
19	57.3	56.1	51.7	46.9	30.53	-	65.7	65.0	53.9	47.8	31.03	31.65
20	58.3	55.3	48.2	47.2	.44	-	65.9	65.8	57.3	48.0	31.25	-
21	58.9	56.0	49.1	46.7	.39	-	64.9	64.7	55.8	48.8	30.96	-
22	-	-	-	-	.48	32.33	64.2	65.0	58.9	49.9	30.97	-
23	59.2	55.0	47.5	46.7	.55	-	65.1	64.7	50.9	49.9	31.30	-
24	59.2	56.5	48.3	46.8	.75	-	65.9	65.2	62.3	49.8	.47	-
25	60.3	58.6	52.0	48.9	.71	-	67.9	66.4	57.1	49.9	.34	-
26	60.7	59.3	48.9	48.2	.54	-	68.1	67.3	55.9	49.9	31.46	31.33
27	58.2	54.0	48.2	47.8	.75	-	67.2	66.3	54.4	47.0	30.72	-
28	58.2	57.0	50.0	49.3	30.90	-	67.2	66.4	56.7	47.7	.87	-
29	58.2	57.2	52.6	49.6	31.06	31.83	68.1	64.3	56.1	48.8	.90	-
30	59.1	57.9	53.2	48.0	.00	-	68.9	67.9	54.4	48.6	30.91	-
31	59.7	58.7	51.4	47.2	31.00	-						
Mean	55.4	53.5	49.3	47.8	31.02	32.15	-	-	-	-	30.97	31.73

Table 14 (Cont'd)

WINTER QUARTER LIGHTSHIP 37°55'05"N. 74°56'04"W. Depth of water - July 75 ft. Aug. 95 ft.

1958

	July						August					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	75'	0'	75'	0'	30'	50'	85'	0'	95'
1	69.7	67.3	50.7	47.1	31.00	-	74.5	68.1	51.9	50.8	-	32.59
2	71.1	70.1	60.6	47.9	30.70	-	75.1	64.6	54.1	51.2	30.96	-
3	71.3	67.2	57.0	47.9	.82	32.49	74.1	59.4	52.5	51.2	31.02	-
4	72.6	69.8	55.2	49.5	30.38	-	75.9	58.1	53.3	51.9	.64	-
5	74.8	70.8	55.1	49.1	31.00	-	72.7	62.1	55.7	53.0	.05	-
6	71.1	68.9	55.0	48.0	.21	-	74.6	65.7	53.6	52.0	.03	-
7	71.7	70.1	50.3	47.8	.22	-	76.6	59.0	52.8	51.2	.03	-
8	71.2	67.1	49.1	47.8	.33	-	76.2	68.9	53.0	51.9	.46	32.89
9	69.0	67.7	47.7	-	.48	-	75.0	71.1	55.2	51.7	31.03	-
10	72.6	64.3	48.3	48.1	.18	32.59	75.8	65.6	54.1	51.4	30.97	-
11	68.0	61.5	48.3	47.8	.59	-	74.2	60.4	54.2	51.4	.91	-
12	67.4	54.9	47.0	46.5	.56	-	74.8	58.3	54.4	52.7	30.62	-
13	67.1	59.3	47.3	46.2	.70	-	74.8	67.6	53.1	52.7	31.15	-
14	67.9	49.6	46.9	46.8	.66	-	73.7	66.4	53.4	51.7	30.84	-
15	64.3	48.3	46.7	46.6	.77	-	71.7	59.2	51.0	50.7	31.03	32.64
16	64.8	49.7	45.8	45.2	.90	-	71.8	60.6	57.6	51.8	.14	-
17	68.9	58.3	50.8	46.8	.89	32.78	72.3	66.3	52.7	52.3	.24	-
18	66.8	58.9	47.5	46.7	.99	-	74.1	59.0	52.9	52.8	.22	-
19	70.1	59.0	46.9	46.8	.88	-	74.2	57.4	53.2	53.1	.47	-
20	71.9	52.8	46.9	46.2	.89	-	74.3	64.8	53.6	53.1	.54	-
21	73.1	72.3	48.7	47.1	31.82	-	76.4	73.2	53.4	52.7	.63	-
22	72.6	62.8	47.7	47.2	32.08	-	75.8	70.0	53.1	52.0	.29	32.19
23	72.1	60.6	48.1	47.9	.06	-	76.7	69.9	54.1	53.1	.66	-
24	70.7	55.0	48.6	47.9	32.05	32.66	75.7	62.9	53.8	53.5	.56	-
25	68.9	50.3	48.0	47.9	31.64	-	72.1	58.2	52.5	52.0	31.28	-
26	71.2	54.0	46.2	45.0	.24	-	-	-	-	-	-	-
27	74.9	53.9	47.4	47.2	.78	-	71.8	66.0	53.9	53.3	31.16	-
28	73.6	54.8	50.8	47.1	.79	-	72.3	70.9	57.7	55.9	.83	-
29	74.1	67.6	48.9	47.2	.48	-	72.3	69.9	64.9	61.5	.42	31.47
30	74.2	65.0	48.5	47.3	.61	-	74.4	72.8	66.4	59.0	31.43	-
31	75.1	55.0	48.7	47.5	31.24	-	-	-	-	-	-	-
Mean	70.7	60.7	49.5	47.3	31.51	32.63	74.3	64.7	54.6	52.8	31.24	32.36

Table 14 (Cont'd)

WINTER QUARTER LIGHTSHIP 37°55'05"N. 74°56'04"W. Depth of Water - 85 feet

1958

	September						October					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	85'	0'	85'	0'	30'	50'	85'	0'	85'
1	71.8	70.0	62.8	55.2	-	-	-	-	-	-	-	-
2	73.0	72.2	68.6	58.0	31.18	-	-	-	-	-	-	-
3	72.7	71.9	68.7	59.3	31.22	-	-	-	-	-	-	-
4	74.2	69.5	63.4	58.2	-	-	64.8	64.9	64.8	64.8	31.35	-
5	73.3	72.7	62.5	54.4	31.24	32.53	64.2	64.1	64.1	64.1	.31	-
6	74.4	73.9	69.8	55.1	-	-	64.0	64.0	63.9	63.9	.34	-
7	73.7	73.3	62.1	53.9	30.97	-	64.5	64.2	64.1	64.0	.38	-
8	73.9	73.8	73.4	54.4	.88	-	64.7	64.3	64.1	64.1	.35	-
9	73.3	72.4	62.0	55.1	.98	-	-	-	-	-	.34	31.38
10	70.9	66.6	56.0	53.5	30.90	-	65.2	64.9	64.6	64.2	.36	-
11	70.1	70.0	61.6	55.2	31.17	-	-	-	-	-	.38	-
12	67.7	64.5	54.3	53.6	31.27	-	64.0	64.0	64.0	63.9	.44	-
13	68.1	65.9	56.3	54.6	32.27	-	63.9	63.9	63.9	63.9	.48	-
14	69.0	67.0	55.6	54.0	31.34	-	63.7	63.6	63.3	63.3	.41	-
15	69.9	67.9	57.0	53.9	.17	-	-	-	-	-	.42	-
16	69.8	68.2	54.4	53.0	.31	-	63.7	63.2	62.3	62.0	.43	31.55
17	70.7	67.0	57.2	54.1	.21	-	-	-	-	-	.56	-
18	70.6	67.9	58.8	53.5	.24	-	63.9	63.8	61.9	61.3	.68	-
19	70.9	70.3	62.1	54.0	.00	32.37	-	-	-	-	31.44	-
20	70.1	69.1	61.1	55.3	.50	-	-	-	-	-	-	-
21	69.1	68.6	58.9	57.0	.30	-	-	-	-	-	-	-
22	69.6	68.2	61.0	55.2	.56	-	-	-	-	-	-	-
23	70.0	68.1	59.7	56.5	.40	-	-	-	-	-	31.53	31.53
24	70.6	67.6	57.9	56.7	.46	-	61.9	61.5	61.1	61.0	.49	-
25	69.9	69.0	61.4	56.1	.51	-	61.5	61.1	61.1	61.0	31.23	-
26	70.6	70.1	60.1	55.5	.65	32.29	60.9	60.8	60.7	60.7	-	-
27	71.6	70.7	56.0	54.8	31.72	-	60.3	60.3	60.3	60.3	31.48	-
28	-	-	-	-	-	-	60.3	60.4	60.4	60.3	.48	-
29	66.2	65.1	64.7	64.5	31.69	-	59.9	59.9	59.9	59.9	.48	-
30	68.2	67.9	67.3	66.1	31.71	-	59.7	59.7	59.7	59.7	.47	31.45
31							59.5	59.5	59.3	59.2	31.45	-
Mean	70.8	69.3	61.2	55.9	31.34	32.40	62.7	62.5	62.3	62.2	31.43	31.48

Table 14 (Cont'd)

WINTER QUARTER LIGHTSHIP 37°55'05"N. 74°56'04"W. Depth of water - 85 feet

1958

	November						December					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	85'	0'	85'	0'	30'	50'	85'	0'	85'
1	58.8	58.3	58.2	58.1	31.50	-	51.5	51.7	51.5	51.5	31.85	-
2	-	-	-	-	-	-	50.9	51.1	51.0	51.2	.88	-
3	-	-	-	-	-	-	50.4	50.6	50.3	50.8	.78	-
4	56.9	56.9	56.9	56.9	31.39	-	50.6	50.5	50.4	50.2	.75	31.81
5	55.2	55.0	54.6	54.1	.56	-	50.2	50.0	50.1	50.1	31.72	-
6	54.5	54.5	54.3	54.2	.11	31.78	-	-	-	-	-	-
7	-	-	-	-	.29	-	49.2	49.1	49.1	49.1	31.92	-
8	54.5	54.3	54.4	-	.35	-	49.1	49.2	49.1	49.1	32.07	-
9	54.6	54.3	54.1	54.0	.25	-	48.9	48.9	49.0	49.0	.15	-
10	54.9	54.9	54.7	54.5	.41	-	48.1	48.6	48.6	48.2	.03	-
11	54.4	54.6	54.5	54.4	.46	-	47.7	47.9	47.9	47.7	32.00	32.34
12	54.1	54.1	54.1	54.1	.59	-	-	-	-	-	-	-
13	54.5	54.4	54.3	54.2	.59	31.61	45.1	45.2	45.9	46.1	32.21	-
14	54.8	54.6	54.1	54.1	.52	-	48.9	49.1	49.5	49.8	.34	-
15	55.1	55.0	54.6	54.1	.54	-	48.3	48.7	48.9	49.1	.21	-
16	54.1	54.1	54.1	54.1	.38	-	48.2	48.5	48.8	49.1	32.21	-
17	-	-	-	-	.31	-	46.7	47.0	47.1	48.9	31.90	-
18	54.1	54.0	54.1	54.1	.25	-	45.7	46.2	47.4	48.3	.96	32.70
19	54.8	54.8	54.6	54.3	.43	-	45.4	46.0	46.3	48.8	31.63	-
20	54.3	54.3	54.2	54.2	.50	31.70	44.3	45.0	46.1	48.8	32.10	-
21	54.8	54.7	54.5	54.2	.67	-	45.5	45.8	45.9	45.9	31.87	-
22	54.3	54.2	54.1	54.1	.72	-	44.0	44.6	45.0	45.7	32.14	-
23	54.3	54.2	54.3	54.1	.66	-	45.1	45.5	45.8	46.1	.10	-
24	54.0	54.0	53.9	53.9	.75	-	46.2	46.8	46.8	47.3	32.43	-
25	54.2	54.1	54.1	54.0	.83	-	-	-	-	-	-	-
26	-	53.8	53.8	53.8	.59	-	43.3	43.9	43.9	44.0	32.17	-
27	53.1	53.1	53.1	53.0	.78	31.77	43.8	44.1	44.3	44.8	.39	-
28	52.5	52.5	52.5	52.5	.77	-	44.3	44.4	45.1	45.1	32.42	-
29	51.2	51.3	51.4	51.3	31.84	-	46.9	47.1	47.2	47.4	33.22	-
30	-	-	-	-	-	-	-	-	-	-	-	-
31							-	-	-	-	-	-
Mean	54.5	54.4	54.3	54.2	31.52	31.72	47.2	47.5	47.7	48.2	32.09	

Chesapeake Lightship (Figure 15, Table 15)

The winter surface minimum, slightly greater than 36°F, occurred in mid-February; it was more than 5° below the mean. At this time there was a vertical gradient in both temperature and salinity, indicating an outward flow at the surface of cold, fresh water from Chesapeake Bay. Minimum bottom temperature did not appear until 3 weeks later. During April warming was rapid and a temperature gradient appeared. The temperature depression at the surface in mid-July and the intrusion of cold, more saline water at the bottom matches conditions seen at stations to the north. The surface maximum of greater than 75°F occurred in August and was followed by cooling in advance of the mean. The hurricane of August 27 and 28 produced northeasterly winds at this station which very nearly destroyed the thermocline; between the 26th and 29th of the month bottom temperatures rose by more than 17°F. As at other stations, chilling was slow during November and rapid in December.

Three distinct lows in surface salinity appear in February, in early summer and in November. This pattern is similar to that seen in 1956 and the values are comparable. The 1957 surface salinities after April were markedly higher, except during late December.

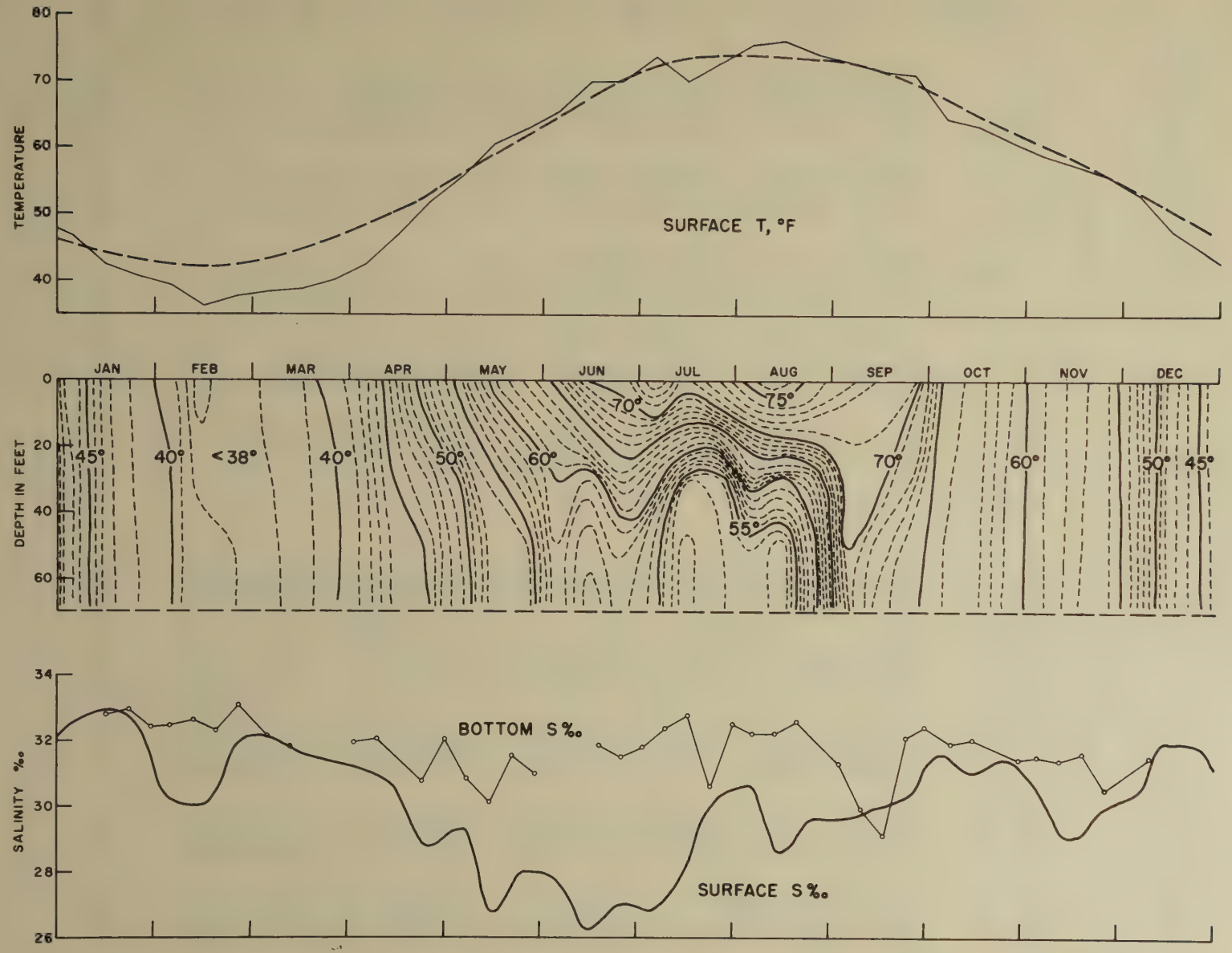

Figure 15. Chesapeake Lightship, 1958. (Dashed line in upper diagram, mean for period 1947-1956)

Table 15

CHESAPEAKE LIGHTSHIP 36°58'07"N. 75°42'02"W. Depth of water - 65 feet

1958

Depth / Day	January Temperature °F 0'	30'	50'	65'	January Salinity o/oo 0'	65'	February Temperature °F 0'	30'	50'	65'	February Salinity o/oo 0'	65'
1	50.7	50.5	50.6	50.6	32.14	-	40.5	40.9	40.9	40.9	31.17	-
2	49.5	49.6	49.8	49.8	.09	-	-	-	-	-	32.42	-
3	49.2	49.1	48.9	48.8	.06	-	42.3	42.2	42.1	42.1	.41	-
4	47.0	47.3	47.5	47.7	.38	-	-	-	-	-	32.40	-
5	43.0	43.9	43.2	43.1	.62	-	38.4	39.7	39.7	39.7	31.18	32.49
6	46.1	46.1	46.1	46.1	32.26	-	38.9	39.8	40.0	40.0	25.95	-
7	45.7	47.0	47.2	47.2	33.19	-	39.5	40.1	40.1	40.1	27.67	-
8	46.4	46.8	46.8	46.8	32.91	-	-	-	-	-	-	-
9	45.3	45.3	45.5	45.5	33.18	-	38.8	38.9	38.9	38.9	28.94	-
10	44.5	45.0	44.4	44.6	.04	-	37.1	38.8	38.9	38.9	29.83	-
11	44.8	44.8	44.7	44.7	.04	-	37.0	39.3	39.3	39.3	28.41	-
12	43.3	43.3	43.3	43.3	.09	-	37.2	39.1	39.3	39.3	27.11	32.61
13	41.8	41.8	41.8	41.8	33.02	-	38.0	38.0	38.0	38.0	32.48	-
14	42.9	42.9	42.8	42.8	32.86	-	38.0	38.3	38.7	38.9	32.53	-
15	42.7	42.7	42.7	42.8	.83	32.80	36.9	38.3	38.7	38.9	29.20	-
16	41.9	41.9	42.0	42.0	.78	-	-	-	-	-	29.32	-
17	41.8	41.8	41.8	41.8	.91	-	-	-	-	-	32.66	-
18	41.0	41.1	41.1	41.1	32.94	-	33.5	34.8	36.4	36.4	28.94	-
19	-	-	-	-	-	-	34.0	34.2	37.0	37.1	29.14	32.35
20	41.1	40.9	40.9	40.9	33.06	-	35.0	35.6	37.2	37.2	30.17	-
21	41.0	41.0	41.0	41.0	33.00	-	36.2	36.2	36.2	36.2	32.66	-
22	41.0	41.6	41.6	41.5	31.92	32.98	35.5	36.7	36.9	36.9	30.43	-
23	40.7	41.3	41.9	41.9	32.28	-	36.4	36.3	37.0	37.1	32.48	-
24	41.0	41.1	41.9	42.0	32.59	-	36.8	37.2	37.5	37.6	30.65	-
25	-	-	-	-	-	-	39.0	39.0	39.0	39.0	-	-
26	40.6	40.4	40.4	-	32.56	-	39.2	39.8	39.8	39.8	31.92	33.12
27	40.2	40.2	40.3	40.5	.51	-	39.0	38.8	38.9	39.1	32.48	-
28	40.6	40.6	40.5	40.5	.56	-	38.9	38.2	38.3	38.5	32.54	-
29	40.1	40.1	40.2	40.2	.44	32.42						
30	40.1	40.1	40.6	40.6	.44	-						
31	40.3	40.3	40.3	40.4	32.57	-						
Mean	43.3	43.4	43.4	43.6	32.66	-	37.7	38.3	38.6	38.7	30.58	32.64

Table 15 (Cont'd)

CHESAPEAKE LIGHTSHIP 36°58'07"N. 75°42'02"W. Depth of water - 65 feet

1958

	March						April					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	65'	0'	65'	0'	30'	50'	65'	0'	65'
1	38.2	37.2	37.2	37.2	32.19	-	40.7	40.3	40.3	-	31.18	-
2	39.0	36.9	37.1	37.1	.23	-	42.1	40.9	40.7	40.7	30.89	31.97
3	38.9	37.2	37.0	37.0	.20	-	41.1	40.8	40.8	40.8	31.97	-
4	37.4	37.6	37.6	37.6	.12	-	42.1	41.2	41.2	41.2	32.17	-
5	38.3	37.8	37.7	37.6	.03	32.11	42.3	41.8	-	-	32.18	-
6	38.1	37.8	37.8	37.8	.11	-	41.8	41.9	41.9	41.8	-	-
7	38.2	38.2	38.1	38.1	.10	-	44.7	41.9	41.6	41.6	27.09	-
8	39.0	38.8	38.8	38.8	.18	-	43.5	42.3	41.8	41.8	31.43	-
9	38.5	38.6	38.5	-	32.17	-	43.8	43.2	42.6	42.3	.71	32.08
10	38.2	38.1	38.1	38.1	31.92	-	44.0	43.1	42.6	42.5	.36	-
11	38.9	37.9	37.9	37.9	.83	-	43.4	43.4	43.2	43.1	.70	-
12	38.1	38.0	38.0	38.0	.84	31.82	44.3	43.7	43.5	43.4	.56	-
13	38.2	38.3	38.3	38.3	.77	-	46.2	45.1	44.8	44.4	.34	-
14	38.3	38.7	38.8	38.8	.52	-	48.0	45.2	44.8	44.7	31.23	-
15	38.2	38.2	38.2	38.2	.41	-	47.9	44.2	43.9	43.8	24.98	-
16	38.7	38.7	38.6	38.5	.66	-	47.3	45.3	43.9	43.6	31.01	-
17	40.7	38.7	38.5	38.5	.71	-	-	-	-	-	.98	-
18	39.1	39.1	39.1	39.1	.55	-	47.3	45.6	45.1	45.1	.46	-
19	-	-	-	-	31.23	-	48.6	46.3	45.7	45.6	31.64	-
20	-	-	-	-	-	-	51.1	46.7	45.9	45.7	28.26	-
21	38.9	38.8	38.7	38.7	31.65	-	53.9	45.5	45.1	45.0	24.07	-
22	39.1	39.1	39.1	-	.67	-	50.1	45.0	45.0	45.0	28.98	-
23	39.1	38.8	38.7	38.6	.53	-	49.6	47.1	44.9	-	30.89	30.80
24	41.4	39.1	39.0	39.0	.45	-	49.8	47.3	44.9	-	30.23	-
25	39.3	39.6	39.5	39.5	.76	-	52.6	47.4	44.9	-	29.20	-
26	-	-	-	-	.30	-	51.1	45.6	45.0	-	30.26	-
27	-	-	-	-	31.05	-	49.9	47.1	45.1	44.8	30.93	-
28	-	-	-	-	-	-	53.1	46.9	44.9	44.8	27.43	-
29	40.5	40.3	40.1	40.1	31.38	-	55.9	47.9	44.9	44.8	.91	-
30	41.8	41.2	41.2	41.2	.04	-	54.3	50.0	45.9	45.8	27.86	32.02
31	41.8	41.9	41.8	41.8	31.06	-						
Mean	39.1	38.6	38.6	38.6	31.71	-	47.3	44.6	43.7	43.6	30.10	31.72

Table 15 (Cont'd)

CHESAPEAKE LIGHTSHIP 36°58'07"N. 75°42'02"W. Depth of water - 65 feet

1958

	May						June					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	65'	0'	65'	0'	30'	50'	65'	0'	65'
1	53.9	46.8	45.5	45.2	29.46	-	68.2	57.1	53.9	53.6	22.88	-
2	55.1	46.8	45.9	45.7	25.07	-	67.2	54.5	52.9	52.3	28.34	-
3	56.8	46.6	45.9	45.8	28.93	-	-	-	-	-	28.94	-
4	58.8	46.2	45.9	45.8	.89	-	62.4	62.1	62.0	61.2	29.75	-
5	57.8	47.9	45.9	45.9	28.86	-	62.3	60.9	60.8	60.8	27.86	-
6	55.1	53.9	53.8	53.7	30.84	-	64.9	61.2	60.0	60.0	27.48	-
7	55.2	54.1	53.9	-	.79	30.83	63.4	60.4	59.8	59.7	30.30	-
8	54.9	54.5	54.1	53.9	30.69	-	64.2	62.6	61.3	60.3	29.67	-
9	55.9	54.4	54.0	53.8	29.23	-	68.2	63.1	60.2	60.1	26.03	-
10	55.1	54.9	53.1	-	30.72	-	70.2	60.9	60.1	60.0	26.73	-
11	61.6	54.0	53.9	-	20.93	-	69.7	60.4	58.2	58.0	25.27	-
12	62.1	54.7	52.9	-	19.36	-	69.2	60.1	58.9	57.2	.16	-
13	59.1	53.8	53.3	53.2	28.94	-	69.3	59.5	55.6	54.3	25.70	-
14	58.2	57.1	54.2	-	30.29	30.17	69.9	59.4	56.6	56.0	26.94	-
15	58.6	54.1	53.8	-	29.51	-	70.1	56.6	55.4	55.2	27.15	-
16	60.1	55.2	54.0	53.9	30.78	-	69.3	57.1	55.9	55.5	27.48	-
17	60.8	55.7	54.3	54.3	30.30	-	70.1	57.6	55.7	55.3	26.68	-
18	64.1	54.9	54.1	54.1	24.05	-	71.4	60.6	54.5	54.4	26.70	31.90
19	61.0	53.8	-	-	26.81	-	72.3	59.9	56.7	55.8	23.44	-
20	63.4	53.6	53.4	53.2	-	-	70.8	-	56.6	56.0	28.12	-
21	61.1	54.1	53.1	53.0	26.64	31.55	70.1	62.1	57.1	56.0	.06	-
22	62.7	55.9	52.7	52.6	25.10	-	69.2	59.7	57.8	57.1	28.31	-
23	61.3	54.2	51.2	51.1	26.47	-	68.7	65.2	59.7	58.8	29.00	-
24	63.0	51.1	50.9	50.8	29.69	-	68.3	67.5	60.0	58.4	29.27	-
25	63.3	53.3	50.6	50.4	28.16	-	71.1	65.9	59.1	58.7	25.33	31.53
26	65 7	54.7	51.8	51.1	26.74	-	72.1	68.4	60.0	58.2	25.47	-
27	64.2	61.3	55.7	54.8	30.14	-	70.3	60.8	58.8	57.9	27.77	-
28	62.8	58.3	57.1	55.0	30.33	31.01	70.4	-	57.8	57.2	27.56	-
29	61.7	60.3	57.1	56.2	26.91	-	72.1	61.7	56.8	56.5	26.23	-
30	62.9	60.6	57.6	57.3	29.97	-	72.1	61.0	57.7	57.4	23.66	-
31	65.1	58.0	55.0	53.7	28.17	-						
Mean	60.0	54.0	52.5	51.9	28.09	30.89	68.9	61.0	57.9	57.3	27.04	-

Table 15 (Cont'd)

CHESAPEAKE LIGHTSHIP 36°58'07"N. 75°42'02"W. Depth of water - 65 feet

1958

	July						August					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	65'	0'	65'	0'	30'	50'	65'	0'	65'
1	73.4	67.8	60.1	59.5	26.06	-	76.9	51.0	51.0	51.0	28.22	-
2	74.4	71.7	58.9	58.0	25.23	31.83	75.9	52.4	51.6	51.4	29.99	-
3	73.1	65.9	57.7	57.0	26.64	-	75.7	56.1	52.9	52.5	30.39	-
4	74.7	62.9	54.9	55.0	29.02	-	74.6	64.0	55.5	54.0	31.55	-
5	75.0	60.8	53.9	53.6	28.59	-	75.9	69.2	55.1	54.9	.61	-
6	73.9	58.0	-	-	.30	-	75.1	68.4	57.1	55.5	31.75	32.23
7	73.1	55.1	53.6	53.5	28.27	-	76.4	63.1	55.1	55.0	32.25	-
8	74.9	55.4	54.5	54.0	25.76	-	75.6	73.0	55.7	54.7	28.46	-
9	71.4	54.6	53.9	53.7	.72	32.40	75.9	69.1	54.0	52.8	31.07	-
10	75.7	53.6	52.9	-	.06	-	75.9	71.0	54.4	53.0	31.54	-
11	75.3	53.1	52.6	52.6	.15	-	77.7	69.5	55.1	54.0	26.93	-
12	73.7	55.2	52.9	52.7	25.53	-	79.7	69.8	53.8	53.3	27.92	-
13	69.8	55.4	52.6	52.5	27.32	-	80.1	63.0	54.2	53.5	.04	32.23
14	69.3	51.9	51.6	51.5	28.78	-	76.7	55.8	53.1	53.2	27.85	-
15	-	51.9	51.6	51.5	26.98	-	73.2	52.8	52.4	52.5	28.55	-
16	66.0	53.2	52.1	52.1	29.70	32.81	74.1	52.8	51.2	50.7	29.72	-
17	67.8	52.1	51.3	51.3	29.13	-	75.5	51.4	50.9	50.9	28.82	-
18	70.4	52.0	51.1	51.0	28.98	-	75.8	55.4	51.9	51.9	29.76	-
19	69.6	52.3	51.1	51.1	29.04	-	75.2	62.9	52.9	52.9	30.26	-
20	-	-	51.1	51.1	29.39	-	77.2	60.1	53.4	53.4	29.04	32.60
21	72.1	52.1	51.7	51.6	28.90	-	76.2	61.1	53.4	53.0	28.92	-
22	74.0	52.9	52.3	52.2	29.13	-	77.2	53.9	53.2	53.2	27.79	-
23	73.8	53.2	52.8	52.7	30.67	30.68	76.8	64.0	53.8	53.6	29.40	-
24	73.1	53.8	53.7	53.6	31.84	-	76.6	58.8	54.8	54.2	29.14	-
25	71.8	56.0	53.9	53.8	32.08	-	75.8	54.9	54.8	54.5	28.74	-
26	73.6	54.9	54.1	53.8	31.97	-	69.2	54.7	53.9	53.3	30.47	-
27	71.4	53.3	53.2	53.1	-	-	-	-	-	-	-	-
28	73.1	53.3	52.2	52.2	31.09	-	-	-	-	-	-	-
29	-	52.8	52.7	52.7	30.24	-	71.2	70.8	70.7	70.5	31.10	-
30	73.2	52.0	51.9	51.8	27.94	32.56	72.8	71.3	70.5	70.2	31.11	-
31	74.0	51.6	51.6	51.5	29.12	-	74.1	71.4	70.9	70.8	30.29	-
Mean	72.6	55.6	53.3	53.1	28.39	32.06	75.6	61.8	55.4	55.0	29.64	32.35

Table 15 (Cont'd)

CHESAPEAKE LIGHTSHIP 36°58'07"N. 75°42'02"W. Depth of water - 65 feet

1958

	September						October					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	65'	0'	65'	0'	30'	50'	65'	0'	65'
1	74.7	70.6	69.8	69.5	30.89	-	69.0	66.1	66.1	66.0	29.97	32.46
2	70.9	70.8	70.4	70.0	30.94	-	65.2	65.2	65.3	65.3	31.99	-
3	70.9	70.0	69.8	69.7	31.37	31.33	64.6	64.4	64.6	64.7	.86	-
4	72.1	70.3	70.0	69.8	31.18	-	64.0	64.1	64.1	64.1	.58	-
5	72.1	70.7	70.1	69.8	29.70	-	65.1	64.0	63.9	63.9	.69	-
6	75.2	71.0	70.2	69.5	27.24	-	63.7	63.3	63.3	63.3	.93	-
7	75.9	71.6	69.8	69.8	.37	-	63.1	63.1	63.1	63.1	.92	-
8	74.8	71.7	69.9	69.8	27.74	-	63.6	63.1	63.0	63.0	.87	31.95
9	72.1	71.9	69.9	69.8	30.73	-	63.9	63.6	63.2	63.2	.86	-
10	73.2	71.9	70.9	70.2	29.30	29.94	64.9	63.7	63.5	63.4	.86	-
11	71.9	70.7	70.2	70.2	29.65	-	64.0	63.6	63.6	63.6	.85	-
12	70.6	69.5	67.9	66.9	30.75	-	63.0	63.1	63.1	63.1	31.85	-
13	70.0	69.9	68.1	66.2	31.46	-	63.5	63.1	63.1	63.1	32.07	-
14	70.9	69.7	67.7	67.2	30.67	-	63.4	63.2	63.1	63.1	32.05	-
15	71.1	70.2	67.9	67.0	30.31	-	63.1	63.3	63.3	63.3	29.93	32.07
16	73.9	70.8	69.0	68.4	28.37	-	63.6	63.6	63.6	63.7	31.06	-
17	74.1	70.2	69.0	68.6	27.66	29.11	64.2	63.3	63.1	63.1	29.61	-
18	72.7	69.9	63.8	61.7	29.61	-	64.0	63.2	63.1	63.1	30.26	-
19	72.2	70.3	67.6	64.8	30.57	-	-	-	-	-	-	-
20	71.9	70.1	67.3	66.6	.99	-	-	-	-	-	-	-
21	71.5	70.3	67.2	66.3	30.60	-	-	-	-	-	-	-
22	72.0	69.2	67.6	66.9	29.39	-	-	-	-	-	-	-
23	73.5	69.3	64.9	64.0	.86	-	62.0	61.3	61.5	61.4	31.36	-
24	72.2	66.5	64.9	64.2	29.99	32.11	62.4	61.4	61.2	61.2	.37	-
25	72.2	66.7	64.3	64.1	30.14	-	61.8	61.5	61.5	61.5	.56	-
26	73.1	66.6	64.7	64.2	30.32	-	61.8	61.7	61.7	61.7	.56	-
27	73.8	70.9	65.2	64.1	28.08	-	62.2	61.2	61.2	61.2	.47	-
28	-	-	-	-	-	-	60.9	60.9	60.9	60.9	.46	-
29	67.1	66.8	66.7	66.7	32.55	-	60.4	60.3	60.4	60.4	.54	31.48
30	67.0	66.7	66.6	66.6	32.19	-	60.1	60.0	60.0	60.0	.46	-
31							60.3	59.9	60.0	59.9	31.54	-
Mean	72.2	69.8	68.0	67.3	29.99	30.62	63.3	62.8	62.8	62.8	31.43	31.99

Table 15 (Cont'd)

CHESAPEAKE LIGHTSHIP 36°58'07"N. 75°42'02"W. Depth of water - 65 feet

1958

	November						December					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	65'	0'	65'	0'	30'	50'	65'	0'	65'
1	59.2	60.1	60.1	60.1	29.20	-	54.3	55.1	54.8	54.8	30.55	-
2	59.9	59.8	59.6	59.6	30.53	-	53.5	53.4	52.9	51.8	.31	-
3	59.1	59.1	59.0	59.1	31.56	-	53.9	54.4	54.5	54.5	30.70	-
4	59.2	59.1	59.0	59.1	.57	-	-	-	-	-	29.97	-
5	59.1	59.0	59.0	59.0	31.04	31.56	54.0	54.3	54.2	54.2	30.13	-
6	59.4	59.1	59.1	59.1	28.45	-	53.9	53.7	54.3	54.4	.38	-
7	58.9	58.8	58.8	58.8	31.39	-	52.9	53.1	54.4	54.5	30.38	-
8	58.8	58.3	58.2	58.2	31.42	-	51.7	53.6	54.7	-	29.14	-
9	57.7	58.1	58.1	58.1	29.90	-	51.8	52.1	53.2	53.7	30.05	-
10	60.5	60.5	60.7	60.7	31.10	-	51.8	52.0	51.9	51.9	31.54	31.55
11	57.5	57.4	57.4	57.4	31.68	-	-	-	-	-	-	-
12	56.4	57.2	57.6	-	29.78	31.43	50.1	50.0	49.9	49.9	31.72	-
13	56.7	57.2	57.1	57.1	27.51	-	50.0	49.8	49.6	49.6	31.92	-
14	57.2	57.3	57.3	57.3	28.64	-	48.7	48.4	48.1	47.5	32.03	-
15	57.6	57.7	56.9	56.8	28.90	-	48.2	48.4	48.4	48.3	31.92	-
16	57.8	57.5	56.9	56.9	29.05	-	47.2	46.3	46.2	46.2	32.02	-
17	58.0	57.1	57.0	56.9	29.61	-	46.7	46.8	46.7	46.7	.13	-
18	58.7	57.6	57.4	57.4	28.91	-	45.2	45.3	45.3	45.3	.04	-
19	58.3	57.0	56.9	56.9	27.83	31.69	47.1	46.8	46.7	46.5	.00	-
20	57.9	57.5	56.9	56.9	28.40	-	44.9	45.1	46.4	46.5	.00	-
21	57.3	57.9	57.7	57.7	27.74	-	46.9	46.3	46.6	46.6	32.36	-
22	57.3	57.8	57.7	57.7	29.26	-	46.2	46.1	46.0	46.0	30.88	-
23	57.6	57.2	57.5	57.3	30.30	-	42.9	45.0	45.6	45.6	32.18	-
24	58.0	57.8	57.7	57.7	29.33	-	43.9	46.1	46.3	46.3	32.18	-
25	56.6	56.8	56.9	56.9	30.10	-	-	-	-	-	-	-
26	54.2	54.2	54.1	54.1	.16	30.52	44.8	44.7	44.8	44.8	32.19	-
27	56.0	56.1	56.1	56.0	.36	-	45.0	44.8	44.9	44.9	31.96	-
28	55.9	55.9	55.9	55.9	.61	-	46.0	45.3	45.2	45.1	.74	-
29	55.1	55.1	55.1	55.1	.61	-	44.7	44.7	44.9	44.5	.75	-
30	53.4	53.8	53.7	53.8	30.47	-	43.4	43.0	43.0	43.0	31.76	-
31							43.0	43.0	43.0	43.0	-	-
Mean	57.6	57.6	57.5	57.5	29.85	31.30	48.3	48.5	48.7	48.4	31.35	

Diamond Shoals Lightship (Figure 16, Table 16)

Due to the great range in temperature change at Diamond Shoals, the depth-time profile of temperature is drawn in five degree isotherms, rather than the one degree isotherms of other figures.

The dominance of Virginian coastal water at this station during the late winter and spring of 1958 is the striking feature here. From February to mid-May, 10 day mean temperatures throughout the water column and salinities, both surface and bottom, fall far below the mean for the period of record. As has been stated under the section Surface Temperature, this phenomenon is undoubtedly the result of the weather pattern prevailing during the period. Minimum temperatures, both surface and bottom occurred in late March, when surface values were nearly 20°F below the mean. Recovery was rapid, but salinities clearly show the continued dominance of coastal water at the surface through June at least. Vertical temperature structure appeared in mid-May, at which time bottom salinities reached approximately 36.00 °/oo. During July, August and early September surface temperatures were above the mean; from mid-September through mid-November, however, both temperature and salinity at the surface fell off sharply. After a brief rise in early December, the year ended with isothermal water somewhat colder than normal.

Throughout the year, surface temperatures and salinities were consistently below the readings for 1956 and 1957; for comparison the values for the three years in question are given below in terms of annual means.

	1956	1957	1958
Surface temperature:	67.0°F	72.8°F	64.0°F
Surface salinity:	33.76 °/oo	35.27 °/oo	33.07 °/oo

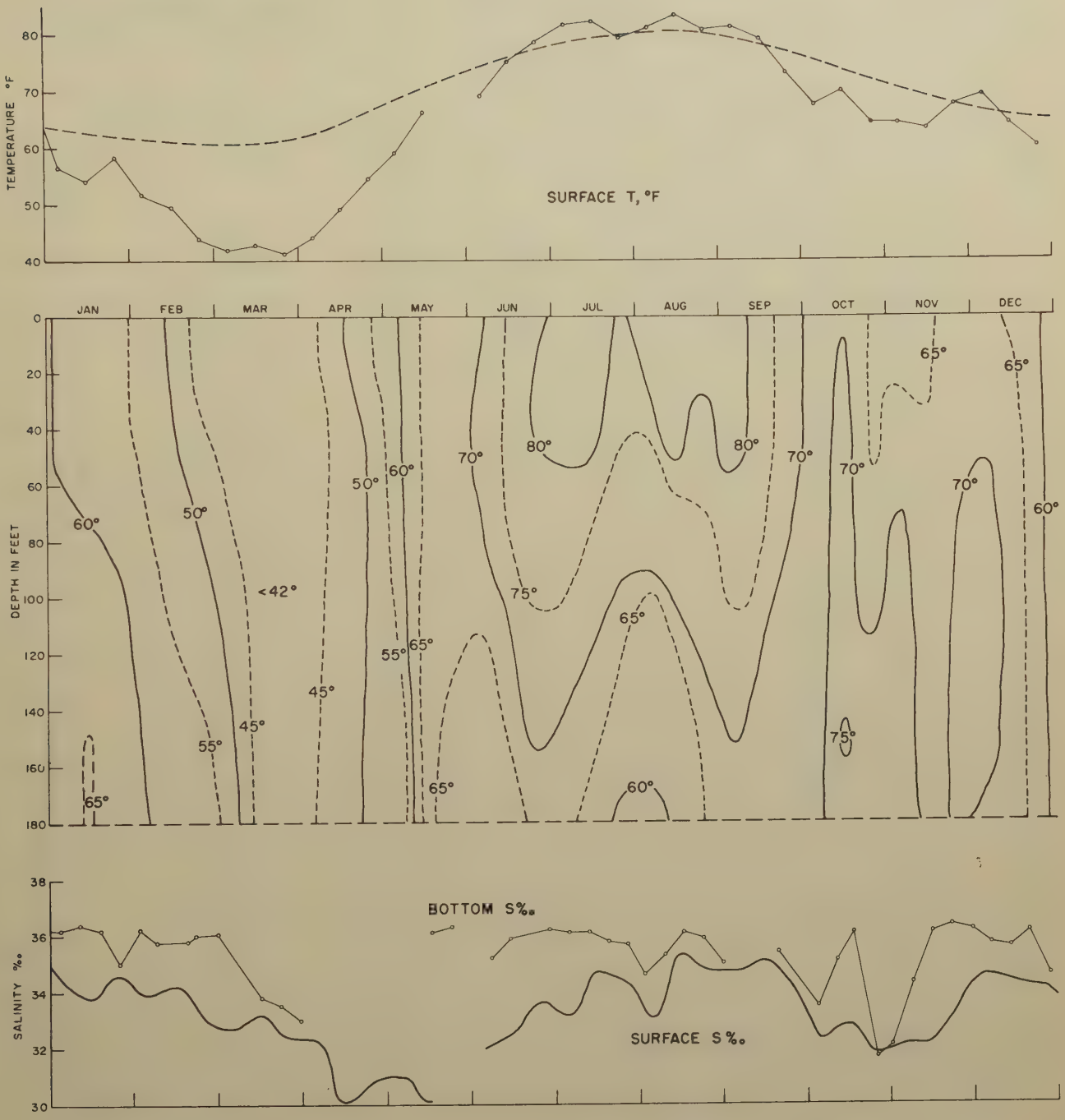

Figure 16. Diamond Shoals Lightship, 1958. (Dashed line in upper diagram, mean for period 1923-1956)

Table 16

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

January, 1958

Depth / Day	Temperature °F						Salinity o/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	70.9	70.9	70.9	70.9	68.8	68.2	36.33	-
2	62.9	62.9	63.0	64.9	65.9	67.0	35.10	-
3	68.1	68.1	68.1	68.2	68.2	68.2	-	-
4	58.1	58.9	59.1	62.6	65.2	65.4	-	36.18
5	51.0	51.0	51.0	57.2	61.7	63.2	34.60	-
6	50.2	49.9	51.9	59.7	56.7	54.5	34.42	-
7	-	-	-	-	-	-	-	-
8	50.5	50.5	50.5	50.8	51.1	51.2	33.75	-
9	49.3	49.3	49.6	50.9	54.2	54.7	33.76	-
10	47.9	50.7	54.4	58.6	57.5	52.8	32.08	-
11	55.6	66.8	67.8	68.5	68.5	68.7	33.41	36.35
12	68.3	68.3	68.3	68.3	68.2	67.2	36.34	-
13	67.7	67.8	67.9	67.8	67.9	67.8	36.36	-
14	-	-	-	-	-	-	-	-
15	57.2	57.9	60.2	66.2	66.7	65.6	33.96	-
16	52.8	53.1	59.0	59.5	65.7	65.4	33.40	-
17	46.3	46.3	46.4	49.9	59.3	60.8	32.76	-
18	45.6	46.7	54.7	61.7	64.5	64.1	.24	36.14
19	48.1	48.0	48.2	50.7	62.0	62.6	.95	-
20	44.6	50.3	55.9	62.8	63.6	63.3	32.38	-
21	65.7	65.8	65.8	64.2	63.1	62.9	36.16	-
22	-	-	-	-	-	-	-	-
23	55.3	55.3	55.3	63.3	62.7	62.2	33.96	-
24	68.0	67.9	67.9	66.8	60.8	60.8	36.32	-
25	-	-	-	-	-	-	-	-
26	49.9	56.4	57.3	58.9	59.9	60.2	32.94	34.97
27	-	-	-	-	-	-	-	-
28	45.2	45.8	46.1	55.9	63.4	64.2	32.11	-
29	45.6	45.5	47.5	55.6	65.0	65.1	32.00	-
30	68.5	68.3	68.1	67.6	66.4	66.5	36.32	-
31	67.3	67.3	67.3	66.9	66.5	66.0	36.34	-
Mean	56.2	57.3	58.5	61.5	63.2	63.0	34.17	35.91

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

February 1958

	Temperature °F						Salinity o/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	-	-	-	-	-	-	-	-
2	51.7	51.8	53.0	58.3	63.5	65.9	33.14	36.18
3	45.1	45.1	45.7	50.7	52.4	56.0	33.13	-
4	-	-	-	-	-	-	-	-
5	53.9	53.9	54.5	56.9	60.7	61.3	34.00	-
6	56.0	56.3	57.9	61.7	63.8	63.8	34.45	-
7	-	-	-	-	-	-	-	-
8	57.0	57.9	57.9	58.0	58.2	58.6	35.26	35.72
9	48.4	48.5	48.8	53.7	56.9	57.2	33.36	-
10	50.0	55.0	61.1	61.8	62.1	62.2	33.74	-
11	54.9	55.1	56.5	62.2	62.4	62.6	34.87	-
12	55.0	55.8	55.8	57.2	60.7	61.2	.87	-
13	52.2	52.8	52.9	53.0	53.2	53.9	34.66	-
14	41.9	41.9	41.9	46.0	51.3	51.7	33.28	-
15	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-
19	46.0	47.3	49.4	54.0	56.1	58.1	33.86	35.77
20	46.7	47.2	48.2	50.0	56.1	57.2	33.55	-
21	39.5	39.2	39.8	41.8	49.7	49.9	32.93	-
22	40.3	42.5	48.9	53.0	57.0	59.4	32.40	35.96
23	43.0	42.9	43.9	53.0	59.1	59.3	33.02	-
24	44.2	47.0	48.2	53.0	59.0	59.2	32.77	-
25	45.7	46.0	-	-	58.2	58.3	33.30	-
26	-	-	-	-	-	-	-	-
27	46.8	-	58.6	59.4	58.8	58.8	33.32	-
28	46.8	49.0	50.3	52.5	56.8	57.0	33.10	-
Mean	48.3	49.2	51.2	54.5	57.8	58.6	33.65	35.91

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

March, 1958

	Temperature °F						Salinity o/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	42.2	-	52.2	57.2	61.1	60.4	32.35	36.00
2	44.0	47.0	-	58.5	60.8	60.5	.66	-
3	41.7	41.5	41.3	42.8	54.6	59.8	.57	-
4	40.2	40.2	40.2	40.3	46.2	52.0	.04	-
5	40.8	40.5	40.8	42.3	43.5	41.5	32.52	-
6	41.8	41.6	41.2	49.5	54.2	54.3	-	-
7	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
10	43.6	43.6	43.5	43.6	43.7	43.7	33.82	-
11	43.7	42.8	43.3	44.8	44.8	44.8	33.73	-
12	44.2	44.2	44.2	44.3	44.6	44.7	34.01	-
13	-	-	-	-	-	-	-	-
14	43.2	43.2	43.3	43.7	44.2	44.8	33.66	-
15	42.2	42.2	42.1	42.1	42.3	43.0	33.27	33.76
16	41.8	41.8	41.9	41.9	42.2	42.7	31.68	-
17	42.0	41.8	42.4	42.8	43.1	43.5	-	-
18	43.0	42.6	42.8	42.8	43.1	43.2	32.40	-
19	42.5	42.2	42.2	-	-	-	33.30	-
20	42.0	41.8	41.8	41.9	41.9	42.7	32.74	-
21	41.5	41 2	41.2	41.2	41.8	42.2	.02	-
22	41.0	40.8	40.8	41.1	41.8	41.8	32.53	33.48
23	43.0	43.0	42.7	41.8	42.0	43.2	30.50	-
24	41.9	41.9	41.4	41.2	41.5	42.1	32.81	-
25	-	-	-	-	-	-	-	-
26	41.2	40.9	40.9	40.9	40.9	41.5	31.92	-
27	40.5	40.8	40.8	40.8	40.8	40.8	32.34	-
28	40.7	40.7	40.7	40.8	40.8	40.8	32.51	-
29	40.7	40.5	40.2	40.2	40.2	40.2	33.00	32.98
30	40.8	40.2	40.2	40.2	40.2	40.8	32.84	-
31	-	-	-	-	-	-	32.74	-
Mean	42.0	42.0	42.2	43.6	45.0	45.6	32.66	34.06

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

April, 1958

Depth / Day	Temperature °F						Salinity o/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	41.1	41.1	41.1	41.0	41.3	42.0	32.66	-
2	41.2	40.7	40.6	40.6	40.7	40.7	31.92	-
3	42.2	41.8	41.9	41.6	41.3	41.1	33.06	-
4	42.6	42.5	42.5	42.4	42.8	42.9	.03	-
5	43.9	43.5	43.2	43.0	42.8	42.8	33.04	-
6	-	-	-	-	-	-	-	-
7	45.8	43.5	44.6	50.1	50.8	50.9	-	-
8	47.0	46.8	45.9	48.1	48.2	48.8	29.81	-
9	46.9	46.6	47.5	48.3	48.5	48.7	32.22	-
10	46.5	45.9	46.2	46.4	46.3	46.7	33.08	-
11	46.7	45.8	46.3	46.2	46.6	46.8	31.39	-
12	46.9	45.1	45.1	45.4	46.0	46.0	.83	-
13	47.0	45.2	45.3	45.3	45.4	45.6	31.19	-
14	51.0	45.7	45.8	45.8	45.5	45.7	28.10	-
15	51.0	46.2	46.2	45.9	46.0	47.2	29.64	-
16	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-
18	46.9	46.8	46.7	46.1	46.0	46.1	32.71	-
19	-	46.2	46.2	46.6	46.3	46.3	28.44	-
20	55.0	46.7	46.4	46.9	46.8	47.4	27.00	-
21	53.0	47.7	46.4	46.6	49.4	50.8	28.44	-
22	54.0	46.8	46.9	48.9	48.3	48.8	29.70	-
23	51.0	47.8	52.5	53.2	55.0	53.8	30.61	-
24	51.5	50.0	50.1	50.8	51.7	52.9	.79	-
25	52.9	50.3	49.3	55.9	53.1	51.9	30.80	-
26	53.2	50.8	48.1	48.8	50.3	50.8	32.10	-
27	59.6	56.2	58.5	48.8	50.1	51.9	31.34	-
28	56.6	50.2	48.1	48.2	51.9	52 0	.14	-
29	59.7	56.7	58.0	48.8	50.1	52.0	.16	-
30	55.2	54.9	50.3	57.0	50.9	50.4	31.75	-
Mean	49.6	47.1	47.0	47.3	47.5	47.8	31.02	-

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

May, 1958

	Temperature °F						Salinity o/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	54.0	53.2	53.4	52.7	54.6	50.8	31.88	-
2	54.3	53.1	51.5	51.7	54.1	51.6	31.77	-
3	60.3	59.8	63.2	63.0	41.2	48.0	32.10	-
4	59.6	72.1	72.1	59.9	51.8	52.2	31.28	-
5	60.7	67.5	71.9	65.8	52.3	54.2	29.95	-
6	59.2	56.7	56.1	57.1	54.2	52.7	31.34	-
7	64.2	57.3	55.1	57.6	62.9	63.8	31.66	-
8	57.6	51.6	49.4	48.2	51.3	51.7	29.09	-
9	57.9	52.5	48.3	47.2	49.9	50.9	29.16	-
10	62.7	57.1	60.2	52.7	54.1	59.1	30.06	-
11	70.8	73.3	72.1	69.9	63.4	61.6	34.32	-
12	70.0	72.9	72.9	70.2	66.7	66.0	33.67	-
13	71.7	72.8	72.8	70.1	68.2	66.7	35.31	-
14	67.6	70.9	70.7	71.1	67.8	68.6	33.99	-
15	61.7	61.5	58.5	63.0	69.3	66.2	28.60	-
16	63.9	60.3	62.1	67.0	68.7	67.3	25.16	36.08
17	62.7	51.3	51.2	62.9	63.3	65.9	27.46	-
18	58.9	54.3	52.9	68.7	66.1	66.6	27.19	-
19	66.8	71.8	71.8	67.8	65.5	63.3	26.72	-
20	68.1	77.2	71.4	68.3	63.7	62.3	27.77	-
21	67.7	70.1	71.1	70.8	64.8	62.4	29.17	-
22	70.3	75.7	71.1	67.7	64.1	63.1	31.70	-
23	73.1	71.6	68.9	64.8	63.9	62.8	.68	36.25
24	70.3	69.8	70.9	65.9	62.2	61.8	31.49	-
25	71.7	66.9	67.1	65.6	63.1	62.8	33.30	-
26	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-
Mean	-	-	-	-	-	-	-	-

Table 16 (Cont'd)

DIAMOND SHOALD LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

June, 1958

Depth / Day	Temperature °F						Salinity o/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	72.2	71.4	72.2	72.1	62.0	60.2	31.39	-
2	72.0	69.7	71.9	66.2	66.0	58.0	32.30	-
3	71.3	70.9	70.0	68.7	61.0	56.8	31.34	-
4	65.9	64.9	64.7	65.1	67.2	65.9	30.73	-
5	65.3	64.1	62.7	58.4	57.9	65.6	30.95	-
6	66.7	75.9	77.1	60.9	60.3	60.6	31.32	-
7	73.3	76.2	77.3	71.3	60.4	60.6	33.79	35.15
8	64.5	70.9	73.0	64.1	62.0	59.1	30.62	-
9	-	-	-	-	-	-	35.48	-
10	70.0	76.2	72.9	65.3	60.1	59.0	31.61	-
11	70.7	75.7	72.2	66.8	61.1	59.5	30.98	-
12	-	-	-	-	-	-	-	-
13	72.6	72.3	75.7	67.6	63.1	62.4	30.62	-
14	72.3	70.9	70.0	74.5	61.8	60.9	31.59	35.85
15	75.3	70.6	79.1	67.2	63.7	61.8	31.84	-
16	78.4	79.3	79.2	75.9	68.0	65.3	33.68	-
17	78.1	78.8	78.8	78.0	68.4	65.5	33.95	-
18	79.1	79.2	79.8	74.0	68.0	66.3	34.70	-
19	76.9	78.0	79.1	77.9	68.7	65.8	32.73	-
20	74.9	74.5	74.6	68.3	67.1	67.1	32.10	-
21	82.6	82.8	82.8	79.9	76.4	75.5	35.90	36.00
22	-	-	-	-	-	-	-	-
23	80.9	81.0	81.2	80.9	74.9	71.1	35.30	-
24	79.9	80.1	79.9	78.2	71.9	70.3	34.98	-
25	81.1	81.8	80.1	73.9	68.1	66.9	34.35	-
26	74.3	80.6	76.7	71.1	68.1	66.8	30.70	-
27	75.8	80.1	80.7	75.1	67.7	65.6	31.14	-
28	76.2	76.1	77.1	76.9	72.9	68.3	33.32	36.18
29	79.2	79.1	79.1	73.9	72.5	68.8	.50	-
30	79.4	78.9	79.1	78.2	70.8	68.9	33.14	-
Mean	74.4	75.6	75.8	71.5	66.3	64.5	32.64	35.80

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

July, 1958

	Temperature °F						Salinity o/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	81.0	79.9	80.2	75.8	70.2	65.8	33.54	-
2	82.1	80.0	80.0	74.5	70.0	65.1	33.60	-
3	79.7	77.8	77.2	70.7	65.8	63.9	31.10	-
4	81.0	79.6	80.1	78.6	71.6	69.2	32.08	-
5	81.9	80.3	79.9	76.7	70.8	68.9	33.50	36.03
6	82.1	81.5	80.1	74.1	67.8	66.3	33.52	-
7	82.2	81.2	81.0	75.9	67.8	66.8	34.12	-
8	81.3	81.4	80.2	74.9	68.0	65.8	32.93	-
9	82.1	82.2	82.3	76.2	69.6	68.3	32.74	-
10	82.2	82.1	81.1	73.1	68.6	66.9	33.72	-
11	81.9	82.0	79.3	73.2	70.9	67.8	.04	-
12	82.2	81.2	80.7	74.2	68.3	66.1	.36	36.06
13	81.5	80.6	77.2	73.0	66.7	61.8	33.48	-
14	83.7	83.9	84.5	80.2	71.9	71.5	34.71	-
15	82.6	83.1	80.7	75.1	69.0	64.2	35.33	-
16	81.9	80.4	-	71.7	63.7	61.5	.27	-
17	83.0	82.9	80.1	74.7	59.1	57.4	.88	-
18	-	-	-	-	-	-	.25	-
19	80.6	80.3	78.7	71.8	63.2	60.0	35.30	35.72
20	82.2	80.7	79.8	75.9	62.3	58.2	34.77	-
21	82.9	82.1	81.0	70.7	61.9	57.8	34.95	-
22	81.1	80.7	79.4	73.8	63.6	58.6	35.27	-
23	82.2	82.1	81.0	72.0	60.8	59.5	.28	-
24	81.3	80.9	78.9	64.7	57.9	57.9	.47	-
25	79.9	79.6	79.1	77.9	63.2	59.8	35.89	-
26	79.0	77.0	74.2	71.1	60.0	59.2	34.98	35.63
27	75.7	72.7	69.9	63.9	63.0	60.8	33.79	-
28	78.7	72.7	63.5	59.3	59.2	60.5	30.87	-
29	74.1	67.0	58.6	58.9	59.1	60.7	32.02	-
30	79.0	80.4	79.2	64.8	62.0	61.9	33.60	-
31	-	-	-	-	-	-	35.71	-
Mean	81.0	79.9	78.1	72.3	65.4	63.2	34.02	35.86

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

August, 1958

Depth / Day	Temperature °F						Salinity o/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	80.8	79.8	75.1	58.2	58.4	57.8	34.67	-
2	81.1	78.0	68.4	61.2	59.1	58.9	32.52	34.58
3	81.9	79.1	67.9	61.2	59.1	59.1	33.95	-
4	79.3	75.8	64.8	59.7	59.6	60.2	31.73	-
5	84.1	86.0	76.2	61.8	58.1	57.2	33.82	-
6	79.7	68.3	62.2	57.0	57.7	57.5	32.87	-
7	81.1	80.8	65.0	56.5	56.7	56.7	31.35	-
8	79.1	83.6	81.6	65.1	58.9	60.0	30.90	-
9	82.1	82.0	81.9	83.1	63.2	63.0	34.08	35.24
10	84.7	85.9	85.4	81.1	74.8	64.8	34.14	-
11	81.9	84.9	82.1	69.6	60.9	60.3	32.84	-
12	83.3	82.9	81.6	69.1	61.0	58.9	32.83	-
13	82.8	81.4	80.0	74.1	59.4	58.9	35.81	-
14	84.9	83.1	81.9	73.9	61.4	-	36.05	-
15	84.9	82.7	82.6	79.6	59.4	-	.11	-
16	84.2	84.1	82.4	71.8	61.0	59.0	36.05	36.08
17	84.0	83.8	83.6	75.4	63.7	61.0	35.99	-
18	83.7	83.5	82.9	71.3	62.8	60.4	.98	-
19	83.0	80.3	78.0	69.2	65.8	63.1	.99	-
20	80.1	76.2	70.8	65.3	65.2	65.0	35.19	-
21	81.7	74.1	68.0	66.1	65.1	64.2	34.89	-
22	82.8	77.6	70.1	65.1	64.9	64.3	34.05	-
23	84.6	83.7	83.1	76.9	67.2	63.7	35.88	35.81
24	84.2	84.1	83.9	76.9	67.8	67.4	.77	-
25	83.1	82.9	82.6	69.3	66.6	-	.86	-
26	81.6	81.1	77.9	66.2	63.2	61.8	.62	-
27	80.5	76.1	74.7	71.3	68.4	66.6	35.56	-
28	-	-	-	-	-	-	-	-
29	75.0	76.1	77.1	73.5	67.8	67.0	33.66	-
30	69.2	68.0	68.3	76.1	68.8	67.9	30.01	34.96
31	85.7	85.7	85.8	77.9	67.7	68.3	35.71	-
Mean	81.8	80.4	76.9	69.4	63.1	62.0	34.33	35.33

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

September, 1958

	Temperature °F						Salinity o/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	85.0	84.7	84.3	82.4	71.3	67.5	35.67	-
2	85.1	85.1	85.1	84.9	84.8	80.5	.99	-
3	83.8	83.7	83.7	79.9	72.8	68.8	35.89	-
4	84.3	84.2	84.2	79.8	69.7	65.9	36.04	-
5	79.2	80.3	83.1	83.1	75.9	69.0	34.15	-
6	82.9	82.2	79.8	71.9	64.2	59.2	35.73	-
7	75.3	81.3	80.7	76.0	67.1	66.9	29.87	-
8	81.1	81.0	80.8	76.3	70.4	69.1	35.71	-
9	80.8	80.4	79.6	74.2	69.6	69.1	35.56	-
10	76.9	79.0	79.3	75.0	71.1	69.2	32.24	-
11	76.3	76.7	77.1	76.1	66.3	64.8	33.56	-
12	80.1	80.1	80.1	80.0	76.7	71.8	35.81	-
13	80.8	80.8	80.9	80.7	78.3	73.7	.91	-
14	79.1	78.1	77.9	70.8	68.1	66.1	.74	-
15	78.3	77.9	77.5	70.0	63.3	62.7	35.63	-
16	77.9	78.9	78.1	73.6	65.7	62.9	32.37	-
17	81.6	80.9	80.2	72.2	62.8	62.2	35.70	-
18	79.6	79.8	76.8	67.9	63.5	62.7	34.89	-
19	80.0	79.9	77.7	73.1	69.8	64.2	35.50	-
20	78.1	78.1	76.9	73.3	70.8	67.2	.21	35.36
21	72.3	71.0	69.6	69.6	65.9	65.7	35.36	-
22	72.1	70.6	70.0	64.7	62.1	60.6	31.75	-
23	79.0	79.0	77.4	72.3	68.7	67.2	35.50	-
24	79.9	79.9	77.7	70.1	63.2	63.8	34.39	-
25	80.9	79.3	75.9	69.9	64.5	62.1	35.76	-
26	80.5	80.1	78.2	69.0	62.1	61.3	35.76	-
27	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
29	67.1	66.1	65.7	66.2	67.7	68.3	32.29	-
30	68.0	66.7	66.6	65.8	65.9	65.9	32.53	-
Mean	78.8	78.8	78.0	73.9	68.7	66.0	34.66	-

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

October, 1958

	Temperature °F						Salinity o/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	69.8	69.7	70.6	71.9	66.7	64.8	-	-
2	67.3	67.2	67.2	67.2	67.7	68.8	32.61	-
3	67.3	66.5	66.3	66.6	67.5	68.4	.30	-
4	66.9	66.7	66.4	66.3	66.2	66.2	32.20	33.45
5	67.1	66.7	66.2	66.2	67.4	67.9	31.96	-
6	67.2	67.0	66.8	66.3	66.1	67.3	31.82	-
7	66.2	66.3	66.2	66.2	66.2	66.3	32.31	-
8	66.8	66.6	66.2	66.2	67.1	67.1	32.31	-
9	71.0	72.0	79.1	80.6	72.5	74.7	33.06	-
10	67.5	66.1	66.8	70.3	77.3	78.0	31.47	-
11	69.1	70.7	73.3	76.9	76.7	69.8	.67	35.09
12	67.4	67.7	67.8	68.0	74.7	75.2	.36	-
13	67.5	67.3	67.3	68.5	72.2	72.2	.59	-
14	67.3	67.3	67.1	70.8	74.9	76.5	.37	-
15	67.1	67.5	68.5	69.3	76.7	76.8	31.15	-
16	71.0	78.9	79.1	78.8	77.4	-	33.06	-
17	79.0	77.8	77.3	76.2	73.2	72.8	36.07	-
18	-	-	-	-	-	-	36.03	36.04
19	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-
21	65.2	65.2	65.1	64.8	64.9	70.5	32.13	-
22	64.8	64.1	64.1	64.1	64.1	64.0	31.89	-
23	65.2	67.7	64.8	79.6	79.3	78.5	.93	-
24	64.6	64.7	64.8	65.6	72.7	74.1	.87	-
25	65.2	65.2	65.0	69.9	73.1	72.1	.53	31.60
26	65.1	64.7	64.7	71.7	73.6	72.3	.78	-
27	64.7	64.3	64.3	64.3	70.2	64.7	.76	-
28	64.3	64.4	65.5	72.5	76.6	75.8	.66	-
29	63.7	63.8	63.6	63.6	71.0	75.3	.57	-
30	63.3	63.7	63.5	63.5	69.2	75.1	.58	-
31	63.0	63.8	64.0	71.0	74.4	74.5	31.22	-
Mean	67.0	67.3	67.6	69.5	71.4	71.5	32.19	34.04

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

November, 1958

	Temperature °F						Salinity o/oo	
Depth / Day	0'	30'	50'	100'	150'	180'	0'	180'
1	63.8	75.1	76.9	76.8	76.6	76.4	31.92	31.95
2	69.0	69.8	74.0	76.1	76.1	75.8	33.64	-
3	63.9	64.4	68.4	75.8	76.3	75.8	31.12	-
4	65.9	66.0	67.4	75.4	76.7	75.2	32.56	-
5	62.9	63.8	70.6	76.0	75.7	74.9	31.63	-
6	62.5	63.8	64.4	75.9	75.2	74.8	31.09	-
7	64.1	64.2	64.2	64.7	75.6	75.7	32.47	-
8	63.0	63.9	64.4	70.9	71.8	72.7	32.43	34.28
9	61.9	66.9	70.1	71.2	72.6	71.0	31.32	-
10	65.7	66.0	67.2	73.9	73.8	68.5	32.76	-
11	62.1	62.3	62.7	64.0	64.1	67.7	32.64	-
12	60.9	64.3	65.3	64.9	68.2	70.0	31.94	-
13	63.5	63.6	64.5	71.1	69.7	65.9	31.88	-
14	64.3	63.1	63.9	66.8	69.0	64.7	32.26	-
15	63.8	67.4	68.8	71.0	67.5	63.4	.10	36.06
16	64.2	71.2	72.6	68.2	62.1	61.5	.22	-
17	65.3	66.7	66.3	66.6	67.5	68.0	.48	-
18	64.6	63.0	62.9	62.1	64.9	66.8	32.55	-
19	61.9	61.7	61.8	64.4	67.7	66.4	31.68	-
20	63.5	63.6	63.9	64.6	68.0	64.6	31.89	-
21	66.7	70.4	72.7	72.0	74.8	-	33.28	-
22	-	-	-	-	-	-	32.46	36.30
23	66.4	67.1	70.0	75.7	72.5	71.0	33.49	-
24	75.8	75.9	75.9	75.0	71.8	66.8	35.80	-
25	-	-	-	68.8	70.3	70.5	33.24	-
26	66.6	66.9	68.1	75.8	75.4	74.1	33.66	-
27	62.7	62.8	62.8	62.9	63.6	65.6	32.52	-
28	-	-	-	-	-	-	-	-
29	67.0	67.1	67.1	67.4	72.4	73.1	34.11	36.16
30	67.5	68.0	68.1	69.8	73.1	72.3	34.33	-
Mean	64.8	66.3	67.6	70.3	71.2	70.1	32.60	34.95

Table 16 (Cont'd)

DIAMOND SHOALS LIGHTSHIP 35°05'30"N. 75°19'30"W. Depth of water - 180 feet

December, 1958

Depth / Day	Temperature °F						Salinity o/oo	
	0'	30'	50'	100'	150'	180'	0'	180'
1	72.1	72.6	73.0	73.5	73.4	73.2	35.08	-
2	65.3	66.2	66.9	68.3	71.4	71.2	33.45	-
3	65.3	65.5	65.6	67.6	70.8	71.3	33.03	-
4	61.1	62.4	64.9	68.9	69.7	69.8	32.53	-
5	61.9	62.1	62.2	62.9	68.8	68.8	31.16	-
6	78.2	78.3	78.1	74.9	72.8	70.8	36.05	35.64
7	74.1	74.1	74.2	74.2	74.1	72.8	.16	-
8	72.9	73.0	73.0	72.9	66.9	62.0	.20	-
9	73.5	74.1	73.9	73.7	70.4	61.8	36.23	-
10	68.2	68.6	68.6	65.8	68.4	68.2	35.48	-
11	-	-	-	-	-	-	-	-
12	53.5	53.7	53.8	53.8	55.7	58.8	32.08	-
13	75.8	76.3	76.3	76.3	75.9	71.5	36.21	35.52
14	75.1	75.0	75.0	74.7	72.6	72.2	.18	-
15	74.9	75.0	75.1	73.9	72.8	72.1	36.14	-
16	51.2	56.8	62.6	72.6	72.7	72.5	31.52	-
17	56.2	67.8	71.6	72.8	73.2	72.9	31.95	-
18	72.9	72.9	72.9	72.9	69.7	64.3	36.22	-
19	62.1	62.7	63.6	66.2	66.9	65.8	36.43	-
20	54.8	64.3	70.0	65.6	63.5	62.8	31.67	36.10
21	59.2	59.4	59.6	60.0	60.3	60.2	34.15	-
22	60.3	60.7	61.0	61.6	61.8	61.8	34.69	-
23	51.5	51.4	58.7	60.0	62.7	63.6	31.41	-
24	73.6	73.9	73.1	69.9	69.5	69.2	36.16	-
25	61.1	61.4	61.7	62.8	64.1	64.8	34.10	-
26	66.8	65.0	61.9	60.1	58.3	57.3	35.30	-
27	53.1	53.7	55.6	56.8	57.2	58.8	33.00	34.56
28	-	-	-	-	-	-	-	-
29	70.1	70.1	70.1	70.2	70.1	69.9	36.12	-
30	-	-	-	-	-	-	-	-
31	45.9	45.9	46.0	46.2	47.0	46.7	32.07	-
Mean	64.6	65.8	66.8	67.1	67.2	66.3	34.31	35.46

Frying Pan Shoals Lightship (Figure 17, Table 17)

Minimum surface temperature of less than 49°F occurred in late February; this was 10° lower than the 1956 minimum and 14° below the 1957 minimum. Below normal temperatures, surface and bottom, persisted into early June, when the thermocline took form. From then on, temperatures remained above the mean until late in October, when cooler, fresher water invaded the area briefly. The abrupt rise in November, more pronounced than at other stations, reflects the warm air temperatures prevailing at that time as well as an advection of off-shore water, indicated by a rise in salinity to greater than 36.00 °/oo

In mid-April a depression of temperature and salinity, surface and bottom, no doubt marks an intrusion of coastal water from north of Cape Hatteras. A similar invasion was noted in November, 1956. By May bottom salinity had recovered, while surface salinity remained depressed through mid-July. In view of the rapid warming during this period, it is likely that the low surface salinity reflects the offshore movement of local coastal water.

Inspection of the daily readings of temperature and salinity shows that this region is often subjected to short term and abrupt changes which are obscured in the 10-day mean values of temperature and salinity.

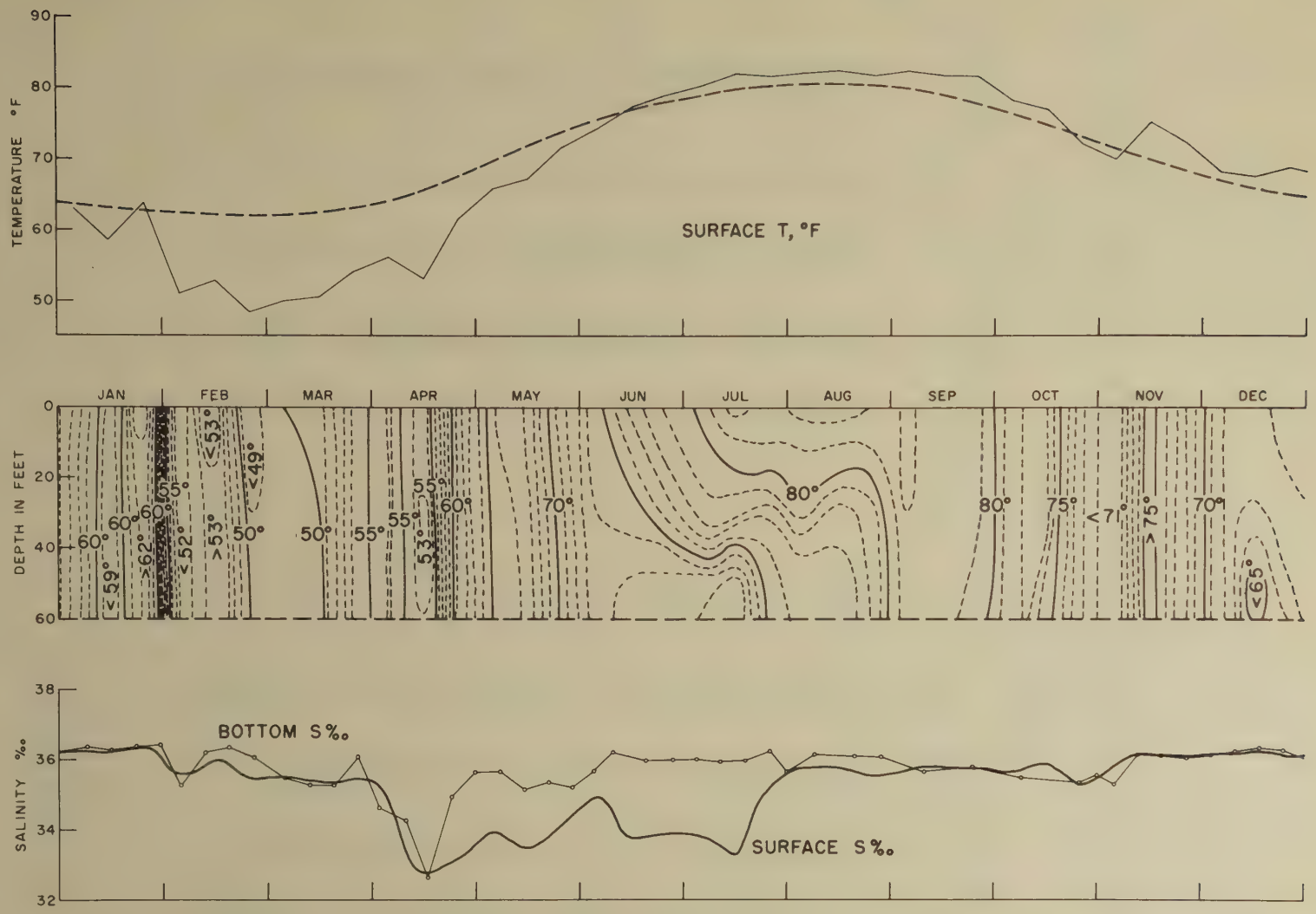

Figure 17. Frying Pan Shoals Lightship, 1958. (Dashed line in upper diagram, mean for period 1947-1956)

Table 17

FRYING PAN SHOALS LIGHTSHIP 33 28'00"N. 77 33'08"W. Depth of water - 60 feet

1958

	January *						February *					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	60'	0'	60'	0'	30'	50'	60'	0'	60'
1	67	64	64	64	36.28	36.23	-	-	-	-	-	-
2	65	65	65	65	.30	-	56	56	56	56	36.28	-
3	64	64	64	64	.26	-	51	51	51	52	35.30	-
4	62	62	62	62	.31	-	48	48	48	48	34.47	-
5	62	62	62	62	.40	-	48	49	50	50	34.71	35.26
6	62	62	62	61	.41	-	50	50	50	50	35.82	-
7	66	65	64	63	36.20	-	51	51	51	51	.95	-
8	63	63	63	63	35.78	36.36	50	50	50	50	.86	-
9	62	62	62	62	36.37	-	52	52	51	50	.49	-
10	60	59	59	59	.43	-	53	53	53	53	35.82	-
11	61	61	61	61	.39	-	56	54	54	54	36.00	-
12	59	59	59	59	.39	-	58	58	58	58	.20	36.20
13	58	57	57	57	.39	-	52	52	52	52	36.14	-
14	59	59	59	59	.33	-	48	48	49	49	35.56	-
15	59	59	59	59	.26	36.26	48	48	48	48	35.36	-
16	60	59	59	59	.30	-	59	59	59	59	36.19	-
17	57	57	57	57	.24	-	55	55	55	55	.47	-
18	58	58	58	58	.38	-	54	54	55	55	.43	-
19	58	58	58	58	.41	-	53	53	53	53	36.37	36.36
20	56	52	53	53	.08	-	45	51	51	51	34.98	-
21	65	54	53	53	.23	-	45	48	50	50	35.02	-
22	68	68	68	68	.38	36.38	46	46	48	49	.35	-
23	67	66	66	66	.41	-	48	48	49	49	.50	-
24	66	66	66	66	.42	-	46	47	48	48	.25	-
25	64	64	64	64	.41	-	48	49	49	49	.40	-
26	61	61	61	61	.37	-	49	-	51	51	35.17	36.06
27	61	60	59	59	.43	-	54	54	54	54	36.19	-
28	61	61	60	60	.43	-	51	51	51	51	35.81	-
29	61	60	60	60	.44	36.41						
30	63	63	62	62	.38	-						
31	65	65	65	65	36.39	-						
Mean	62	61	61	61	36.33	36.33	51	51	52	52	35.67	35.97

* Extreme corrections necessitated by BT malfunction.
Temperature values approximate.

Table 17 (Cont'd)

FRYING PAN SHOALS LIGHTSHIP 33°28'00"N. 77°33'08"W. Depth of water - 60 feet

1958

	March *						April					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	60'	0'	60'	0'	30'	50'	60'	0'	60'
1	52	52	52	52	36.19	-	54.7	54.7	54.8	54.8	34.90	-
2	52	52	52	52	.26	-	53.9	54.1	54.2	54.3	.37	34.61
3	53	52	52	52	.16	-	54.0	53.9	53.9	54.0	.43	-
4	53	53	53	53	36.18	-	55.7	55.6	55.9	56.1	34.87	-
5	46	46	46	46	35.48	35.48	59.2	59.2	59.2	59.2	36.15	-
6	-	-	-	-	.09	-	58.8	58.4	58.5	58.5	35.38	-
7	49.1	49.1	49.1	49.1	35.00	-	59.4	59.6	59.6	59.6	35.66	-
8	48.0	48.2	48.2	48.2	34.87	-	56.0	56.0	56.0	56.0	34.86	-
9	48.5	48.5	48.3	48.2	.91	-	55.0	55.0	55.5	55.9	33.92	-
10	48.0	48.1	48.1	48.1	34.89	-	53.9	53.9	54.0	54.0	.50	34.24
11	48.1	48.1	48.1	48.1	35.10	-	53.1	53.1	55.2	55.8	33.12	-
12	50.4	50.4	50.4	50.3	.22	35.29	52.2	52.1	52.1	54.0	32.56	-
13	58.0	54.0	50.2	49.3	.74	-	51.5	51.3	51.5	51.8	.53	-
14	54.2	54.2	53.6	52.2	.47	-	51.3	51.8	52.0	52.2	.24	-
15	51.9	51.8	51.8	51.8	.24	-	52.7	51.9	52.0	52.1	.27	-
16	47.2	47.3	47.5	47.7	.40	-	51.9	51.9	51.9	51.9	32.93	32.62
17	48.5	48.1	48.0	48.0	.06	-	56.8	56.9	56.9	57.0	34.47	-
18	48.4	48.1	48.1	48.2	.52	-	54.6	55.0	55.5	56.2	33.40	-
19	48.5	48.2	48.3	48.3	.22	35.27	52.2	51.6	52.2	57.0	31.72	-
20	49.8	49.9	49.9	49.9	.50	-	55.0	52.3	55.0	56.1	.92	-
21	48.3	48.3	48.4	48.5	.27	-	57.4	54.8	56.4	56.6	.94	-
22	48.0	47.9	47.9	47.9	35.08	-	56.0	56.1	55.8	58.2	31.93	-
23	48.9	49.1	49.1	49.2	34.99	-	56.1	59.3	59.7	59.7	32.66	34.91
24	49.2	49.2	50.6	50.8	34.73	-	57.9	57.0	60.2	60.2	.54	-
25	63.2	63.0	62.5	62.3	36.17	-	60.2	59.2	60.9	60.9	.13	-
26	61.5	61.5	61.4	61.2	36.12	36.08	61.2	60.8	60.8	60.9	32.52	-
27	52.2	51.9	51.9	52.0	35.07	-	72.6	71.2	65.1	64.9	36.16	-
28	53.2	53.2	53.2	53.2	.60	-	66.1	67.0	68.1	68.2	34.60	-
29	55.1	55.1	55.1	55.1	.36	-	66.1	65.1	65.1	65.0	34.22	-
30	58.1	58.1	58.1	58.1	.80	-	63.7	64.9	65.0	65.1	32.68	35.62
31	58.1	58.1	58.1	58.1	35.60	-						
Mean	51.7	51.5	51.4	51.3	35.43	35.53	57.0	56.8	57.1	57.5	33.55	34.40

* March 1 - 5 Temperature values approximate.

Table 17 (Cont'd)

FRYING PAN SHOALS LIGHTSHIP 33°28'00"N. 77°33'08"W. Depth of water - 60 feet

1958

	May						June					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	60'	0'	60'	0'	30'	50'	60'	0'	60'
1	66.2	65.1	65.0	65.2	35.00	-	75.7	74.9	74.1	74.1	35.20	-
2	66.1	64.9	64.8	64.8	34.94	-	75.0	74.2	73.9	73.9	.51	-
3	67.8	65.1	65.1	65.1	34.87	-	75.9	76.0	75.9	75.9	.00	-
4	66.8	65.3	65.4	65.4	33.84	-	74.3	74.2	74.1	74.1	.66	35.69
5	68.6	66.1	66.0	66.0	34.39	-	74.0	74.0	73.9	73.9	.67	-
6	65.5	66.6	65.5	65.5	32.99	-	74.0	73.9	73.9	73.9	.56	-
7	65.9	67.1	66.5	66.2	33.96	35.65	73.0	73.0	72.9	72.9	35.31	-
8	65.1	65.2	66.6	66.6	34.35	-	72.8	72.7	72.9	72.9	34.62	-
9	62.5	63.0	65.9	65.9	32.53	-	74.2	72.8	72.9	73.0	32.75	-
10	64.6	65.2	65.9	66.0	.58	-	74.1	73.8	73.7	73.8	34.10	36.21
11	65.1	64.3	65.9	65.9	.58	-	77.4	76.9	76.3	76.3	36.14	-
12	65.5	64.7	66.0	66.0	.50	-	76.7	73.2	73.1	73.1	34.80	-
13	65.1	64.8	65.4	65.4	32.30	-	76.8	73.6	72.2	71.8	32.91	-
14	65.2	65.2	65.9	66.0	33.03	35.16	78.7	73.0	72.9	72.9	33.13	-
15	67.0	67.1	66.2	66.2	33.68	-	77.6	72.8	71.9	71.9	32.48	-
16	68.9	68.8	68.7	68.5	35.10	-	75.9	73.1	71.7	71.2	33.57	-
17	67.9	67.0	66.9	66.9	34.08	-	77.7	74.9	73.0	73.1	33.17	-
18	69.0	68.9	67.9	67.9	33.26	-	78.8	74.3	72.2	71.9	32.74	-
19	69.1	68.1	67.2	67.2	.96	-	78.2	76.7	73.0	70.8	33.95	-
20	69.6	69.3	68.0	68.0	.72	-	76.1	74.8	71.9	71.8	34.38	35.94
21	70.3	69.0	69.2	69.2	33.63	35.37	79.0	73.9	72.7	72.4	34.35	-
22	69.2	67.8	68.1	68.1	32.94	-	78.9	78.8	72.0	71.0	33.96	-
23	70.9	68.9	69.9	69.9	33.47	-	79.0	74.7	71.4	71.2	.76	-
24	-	-	-	-	-	-	79.3	75.4	72.7	72.7	.45	-
25	72.8	70.0	69.9	69.7	34.07	-	79.7	74.8	73.2	73.2	.17	-
26	72.7	69.9	69.9	70.0	.07	-	79.9	78.2	74.1	73.7	.85	-
27	70.0	69.4	68.9	-	34.60	-	79.2	75.9	72.2	72.2	33.43	35.98
28	73.8	73.4	68.7	68.0	35.63	35.21	76.9	74.6	71.8	71.3	34.25	-
29	71.1	71.8	71.6	71.6	33.41	-	79.3	78.9	73.9	74.0	.31	-
30	72.1	72.7	73.1	73.2	34.34	-	79.4	79.1	73.9	73.3	34.32	-
31	75.1	74.7	74.4	74.3	35.57	-						
Mean	68.3	67.6	67.6	67.5	33.85	35.35	76.9	74.9	73.1	72.9	34.18	35.96

Table 17 (Cont'd)

FRYING PAN SHOALS LIGHTSHIP 33°28'00"N. 77°33'08"W. Depth of water - 60 feet

1958

	July						August					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	60'	0'	60'	0'	30'	50'	60'	0'	60'
1	79.8	78.9	73.0	72.6	34.22	-	84.3	78.1	77.1	77.1	35.63	35.64
2	79.2	77.3	74.1	74.1	.54	-	-	-	-	-	36.05	-
3	78.9	78.8	73.1	73.1	.63	-	-	-	-	-	35.90	-
4	80.2	78.4	72.2	71.0	34.04	36.00	80.1	77.2	76.1	75.9	.95	-
5	80.8	80.0	76.0	70.9	33.61	-	81.2	80.8	75.6	75.6	.96	-
6	79.9	76.0	71.4	70.4	.68	-	82.4	78.2	75.1	75.1	.70	-
7	81.1	79.6	72.7	70.9	.70	-	83.7	80.7	76.9	76.9	.18	-
8	81.7	80.9	73.5	70.9	.41	-	83.9	83.8	78.2	76.9	35.54	36.15
9	80.2	79.6	70.4	68.8	.42	-	80.7	78.8	77.0	76.9	36.00	-
10	82.3	79.7	70.7	70.2	33.20	-	81.2	80.6	77.1	77.0	35.92	-
11	82.6	76.0	70.8	70.7	32.97	35.93	82.3	80.0	77.6	77.4	.95	-
12	82.1	81.7	70.8	70.7	33.12	-	83.3	81.7	78.2	78.0	.89	-
13	82.6	71.2	70.8	70.7	32.88	-	83.2	80.7	77.9	77.8	.75	-
14	83.2	81.6	70.2	70.2	.26	-	82.9	74.8	74.4	74.2	.74	-
15	82.9	82.7	70.8	70.3	32.74	-	83.2	74.2	73.7	73.5	.17	-
16	82.2	73.0	70.5	70.2	33.10	-	84.1	74.8	74.4	74.5	.58	-
17	82.9	82.7	71.5	70.9	.89	-	84.0	79.5	76.1	76.1	.92	-
18	81.8	75.9	71.4	71.1	33.60	35.98	82.4	76.8	75.9	75.9	35.94	-
19	79.1	77.8	72.4	71.2	34.26	-	78.6	76.8	76.1	76.1	36.06	-
20	81.6	80.9	74.3	74.1	.01	-	81.0	76.7	76.6	76.6	35.85	36.10
21	81.9	80.6	72.7	72.2	.27	-	79.3	77.4	77.2	77.2	.56	-
22	82.4	77.3	75.3	74.8	.97	-	83.2	77.3	77.1	77.1	.64	-
23	81.0	76.6	75.6	75.5	34.99	-	83.9	78.0	77.0	76.9	.60	-
24	81.2	76.3	75.9	75.8	35.53	-	83.9	78.5	78.1	78.1	.51	-
25	80.9	78.1	77.6	77.4	.43	36.23	83.6	81.8	77.9	77.8	.71	-
26	80.4	76.2	75.9	75.8	.56	-	83.0	76.0	75.8	75.8	35.49	-
27	-	-	-	-	.43	-	82.1	77.4	77.1	76.9	34.33	36.10
28	82.8	77.7	75.9	75.6	.09	-	80.2	80.1	80.1	80.1	35.80	-
29	81.8	77.4	76.0	76.0	.34	-	79.6	79.4	79.4	79.3	.62	-
30	83.2	77.0	75.4	75.2	.36	-	80.1	79.0	78.9	78.9	.88	-
31	-	-	-	-	35.51	-	81.9	81.0	80.9	80.9	35.51	-
Mean	81.4	78.3	73.1	72.5	34.15	36.04	82.2	78.6	77.0	76.9	35.69	36.00

Table 17 (Cont'd)

FRYING PAN SHOALS LIGHTSHIP 33°28'00"N. 77°33'08"W. Depth of water - 60 feet

1958

	September						October					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	60'	0'	60'	0'	30'	50'	60'	0'	60'
1	81.9	81.4	81.2	81.2	35.70	-	-	-	-	-	35.80	-
2	81.7	81.4	81.4	81.3	.74	-	80.3	80.3	80.5	80.3	.75	-
3	81.8	81.7	81.6	81.6	.57	-	79.9	79.8	79.8	79.8	.73	-
4	81.9	81.8	81.7	81.7	.58	-	79.4	79.2	79.1	79.1	.72	-
5	81.9	81.8	81.8	81.8	.58	-	79.3	79.1	79.1	79.1	.71	-
6	81.6	81.6	81.4	81.3	.59	-	78.9	78.9	78.9	78.9	.79	-
7	84.7	82.1	81.9	81.9	.80	-	77.9	78.0	77.9	77.9	.87	-
8	83.2	83.1	83.0	83.0	.71	-	76.9	77.0	77.1	77.0	.50	35.50
9	82.7	82.7	82.3	82.2	.69	-	76.2	76.3	76.3	76.2	.25	-
10	82.6	82.4	82.3	82.3	.69	35.68	76.4	76.3	76.3	76.3	.35	-
11	83.6	83.2	83.2	83.2	.77	-	76.8	76.8	76.7	76.7	.82	-
12	82.3	82.2	82.2	82.2	.65	-	74.9	74.9	74.9	74.9	.78	-
13	81.1	81.1	81.1	81.1	.88	-	75.0	74.9	74.9	74.9	.80	-
14	80.9	80.9	80.9	80.9	.89	-	75.0	75.0	75.0	75.0	35.80	-
15	82.0	81.9	81.9	81.9	.83	-	78.2	74.8	74.4	74.3	36.03	-
16	81.7	81.7	81.8	81.8	.84	-	80.6	78.7	76.2	75.9	.11	-
17	81.6	81.4	80.8	80.5	.82	35.81	81.2	80.3	78.9	78.9	36.02	-
18	-	-	-	-	.80	-	75.3	75.3	75.4	75.4	35.82	-
19	80.9	80.8	80.1	78.1	.81	-	-	-	-	-	-	-
20	-	-	-	-	.78	-	-	-	-	-	-	-
21	82.7	81.8	79.1	78.9	.82	-	72.3	72.8	72.8	72.8	34.94	-
22	81.8	81.6	80.1	79.0	.64	-	72.9	73.0	72.8	72.8	35.04	-
23	-	-	-	-	.77	-	72.9	72.8	72.9	72.8	.16	-
24	81.3	81.2	81.2	81.2	.82	35.83	73.9	73.1	72.9	72.9	.40	-
25	82.3	82.2	82.2	82.2	35.87	-	73.3	73.7	73.6	73.3	.40	35.37
26	-	-	-	-	-	-	72.9	72.9	73.0	73.0	.33	-
27	-	-	-	-	-	-	72.3	72.2	72.2	72.2	.37	-
28	-	-	-	-	-	-	71.7	71.6	71.5	71.3	.33	-
29	80.9	80.8	80.8	80.8	35.77	-	71.7	71.5	71.5	71.5	.39	-
30	81.1	81.0	80.9	80.8	35.85	-	70.2	70.1	70.1	70.1	.53	-
31							69.9	69.9	69.9	69.9	35.55	35.58
Mean	82.0	81.7	81.5	81.3	35.75	35.77	75.6	75.3	75.2	75.1	35.59	-

Table 17 (Cont'd)

FRYING PAN SHOALS LIGHTSHIP 33°28'00"N. 77°33'08"W. Depth of water - 60 feet

1958

	November						December					
	Temperature °F				Salinity o/oo		Temperature °F				Salinity o/oo	
Depth / Day	0'	30'	50'	60'	0'	60'	0'	30'	50'	60'	0'	60'
1	-	-	-	-	35.49	-	71.8	71.8	71.7	71.7	36.25	-
2	69.8	69.8	69.8	69.8	.58	-	70.1	70.0	70.0	70.0	.23	-
3	71.1	70.9	71.0	71.0	.82	-	69.0	69.0	68.9	68.9	.15	36.17
4	68.8	68.8	68.9	68.9	.60	-	67.9	67.8	67.8	67.8	.21	-
5	65.2	65.2	65.1	65.1	.30	35.30	68.9	68.8	68.8	68.8	.24	-
6	69.9	69.9	69.9	69.9	35.74	-	67.8	67.9	68.0	68.0	.19	-
7	70.2	70.2	70.2	70.2	36.06	-	66.8	66.8	66.7	66.7	36.22	-
8	67.9	67.9	67.9	67.9	.02	-	-	-	-	-	35.90	-
9	73.9	73.9	73.8	73.8	.15	-	66.4	66.3	66.2	66.2	36.29	-
10	73.4	73.4	73.3	73.3	.19	-	66.1	66.0	65.9	65.9	.21	36.23
11	75.2	75.4	75.5	75.6	.18	-	-	-	-	-	.30	-
12	75.1	75.1	75.1	75.1	.21	36.18	66.9	67.0	67.0	67.0	.33	-
13	76.2	76.4	76.4	76.4	.18	-	75.8	76.3	68.7	68.0	36.15	-
14	77.1	77.1	77.1	77.1	.20	-	68.1	68.0	68.0	67.9	35.95	-
15	75.6	75.8	75.8	75.7	.15	-	70.1	70.1	66.9	66.6	36.23	-
16	75.4	75.4	75.3	75.3	.17	-	63.4	63.4	63.3	63.2	.36	-
17	73.9	73.7	73.4	73.4	.10	-	69.2	66.0	63.2	63.1	.28	36.36
18	73.1	73.0	73.0	73.0	.14	-	63.1	63.1	63.1	63.1	.38	-
19	75.1	75.1	75.1	75.1	36.16	36.15	68.6	61.7	61.2	61.2	.34	-
20	75.1	75.1	75.1	75.1	-	-	63.1	62.8	62.2	-	.25	-
21	74.1	74.0	74.0	74.0	36.17	-	62.1	62.0	62.0	62.0	.38	-
22	73.8	73.8	73.8	73.8	.17	-	65.4	60.8	60.8	60.8	.36	-
23	72.1	72.0	71.9	71.9	.13	-	63.3	63.0	62.5	62.2	.37	-
24	72.7	72.8	72.8	72.8	.09	-	61.3	61.2	61.1	61.1	.25	36.30
25	71.6	71.6	71.6	71.6	.11	-	67.2	60.7	58.1	58.1	.21	-
26	71.9	72.0	72.0	72.0	.08	36.08	74.4	74.5	74.1	-	.04	-
27	72.1	72.1	72.1	72.1	.16	-	75.1	75.1	74.6	73.7	.19	-
28	72.6	72.6	72.5	72.5	.12	-	74.1	74.0	73.3	73.1	.02	-
29	72.4	72.4	72.4	72.4	.08	-	72.1	72.1	72.1	72.1	.08	-
30	70.2	70.1	70.1	70.1	36.08	-	69.9	69.9	69.9	69.9	.10	-
31							72.1	71.8	67.6	67.0	36.13	36.07
Mean	72.6	72.6	72.6	72.6	36.02	35.93	68.3	67.5	66.7	66.4	36.21	36.23

Savannah Lightship (Figure 18, Table 18)

The minimum of 45.5°F at the surface occurred in mid-February. This was 8° below the mean for that time. Warming was slow and temperatures were below the mean until the end of May. Summer values were near normal, while those for the autumn were in general above the mean. There was more persistent thermal structure in 1958 than there had been in 1956 or 1957. From late April through mid-August some stratification was apparent. That it was maintained was in part caused by an intrusion of cool water of unknown origin along the bottom during June, when surface temperatures remained static.

From January through mid-June surface salinity was substantially lower than it had been in 1956 or 1957. By the end of July salinity recovered and ran close to the 1956 readings, averaging a little more than 35.00 °/oo. In 1957 salinity had been lower during the second half of the year.

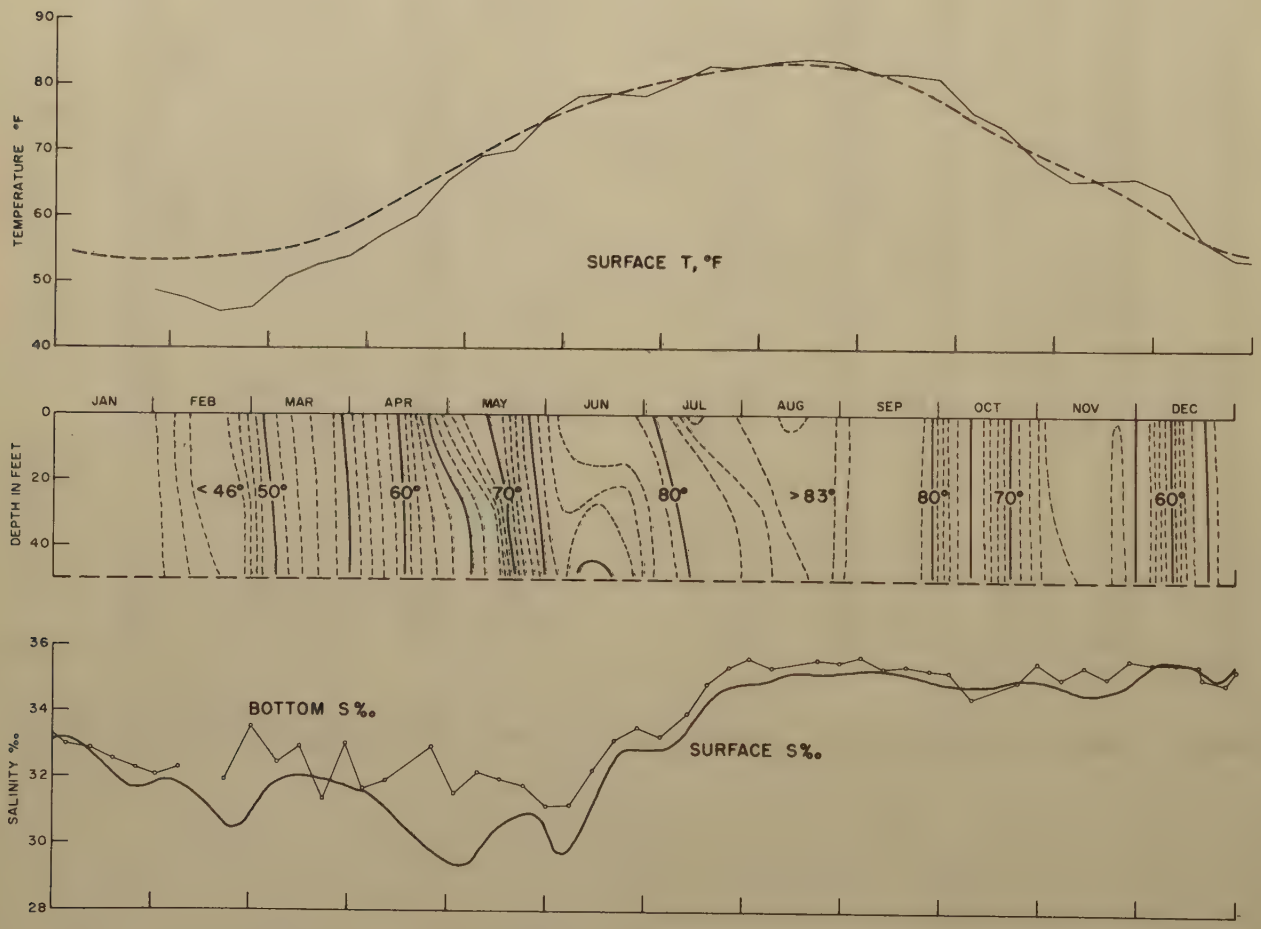

Figure 18. Savannah Lightship, 1958. (Dashed line in upper diagram, mean for period 1947-1955)

Table 18

SAVANNAH LIGHTSHIP 31°56.5'N. 80°39.6'W. Depth of water - 72 feet

1958

	January					February				
	Temperature °F			Salinity o/oo		Temperature °F			Salinity o/oo	
Depth / Day	0'	30'	48'	0'	48'	0'	30'	48'	0'	48'
1	-	-	-	32.51	-	49.5	49.8	49.8	31.98	32.04
2	-	-	-	33.35	-	49.1	49.1	49.2	32.34	-
3	-	-	-	.01	-	48.1	48.2	48.3	32.50	-
4	-	-	-	33.05	33.00	46.7	47.1	47.3	31.37	-
5	-	-	-	32.91	-	46.1	47.2	47.3	30.87	-
6	-	-	-	33.00	-	47.1	47.2	47.2	31.63	-
7	-	-	-	.16	-	47.7	47.4	47.6	31.98	-
8	-	-	-	.67	-	46.8	46.8	46.9	32.24	32.30
9	-	-	-	.59	-	47.0	47.0	47.1	.08	-
10	-	-	-	.54	-	46.9	46.8	-	32.03	-
11	-	-	-	33.47	32.89	46.2	46.9	47.1	31.56	-
12	-	-	-	32.38	-	46.5	47.2	47.2	31.18	-
13	-	-	-	33.88	-	46.7	46.7	-	32.03	-
14	-	-	-	32.81	-	48.0	46.5	46.7	32.64	-
15	47.8	49.3	-	29.69	-	46.5	46.8	-	31.91	-
16	48.9	48.9	-	32.22	-	46.0	46.1	46.1	31.51	-
17	48.3	48.3	48.8	.33	-	44.9	44.9	-	30.75	-
18	47.9	47.9	-	.35	32.53	43.6	44.0	-	.54	-
19	48.8	48.7	48.7	.56	-	43.0	43.4	-	30.43	-
20	48.5	48.2	48.6	.76	-	43.7	43.0	-	31.21	-
21	48.8	48.9	49.1	.46	-	44.3	44.0	44.0	.65	-
22	48.7	48.6	-	32.49	-	44.0	44.8	44.8	31.51	31.94
23	48.6	48.7	-	31.98	-	44.6	44.9	44.9	30.30	-
24	49.0	49.0	49.1	32.55	-	45.6	45.0	45.0	31.21	-
25	48.9	48.9	-	32.26	32.26	48.8	45.8	45.8	27.36	-
26	48.9	49.0	-	30.94	-	47.1	45.6	45.8	30.65	-
27	48.7	48.8	-	31.28	-	47.9	45.8	45.8	.26	-
28	48.4	48.7	49.3	.06	-	47.7	46.5	46.5	30.51	-
29	48.8	49.4	-	.19	-					
30	48.9	48.9	-	31.38	-					
31	48.3	48.3	48.3	30.62	-					
Mean	-	-	-	32.40	32.67	46.4	46.2	46.7	31.29	32.09

Table 18 (Cont'd)

SAVANNAH LIGHTSHIP 31°56.5'N. 80°39.6'W. Depth of water - 72 feet

1958

	March					April				
	Temperature °F			Salinity o/oo		Temperature °F			Salinity o/oo	
Depth / Day	0'	30'	48'	0'	48'	0'	30'	48'	0'	48'
1	48.8	48.1	48.1	30.12	33.54	-	-	-	-	-
2	50.0	48.0	48.0	30.38	-	55.1	54.9	54.9	32.27	-
3	52.0	48.1	48.0	31.07	-	56.9	55.7	55.4	30.75	-
4	50.0	48.1	48.1	.69	-	-	56.8	56.6	31.20	31.66
5	51.0	49.0	49.0	31.88	-	56.1	56.1	56.0	32.48	-
6	49.3	49.3	49.3	32.32	-	56.9	56.9	56.8	32.52	-
7	49.5	49.5	49.5	.09	-	59.8	57.2	57.1	30.83	-
8	50.9	50.9	50.9	.43	32.45	58.2	58.2	58.1	31.00	-
9	52.0	51.0	51.0	.11	-	58.1	58.1	58.1	.40	-
10	51.5	51.5	51.5	.43	-	57.0	56.9	56.8	31.58	-
11	52.0	51.5	51.5	.52	-	60.0	58.5	58.2	27.82	31.90
12	51.9	51.9	51.9	.61	-	58.7	57.6	57.4	30.50	-
13	51.9	51.9	51.9	.90	-	60.3	59.2	58.8	.88	-
14	52.0	52.0	52.0	.90	-	59.6	59.5	59.4	30.50	-
15	52.8	52.1	52.0	.91	32.91	59.2	59.1	58.7	31.57	-
16	53.3	52.3	52.3	32.70	-	60.2	60.2	60.0	31.59	-
17	53.0	52.5	52.5	30.53	-	59.9	59.6	59.6	32.55	-
18	51.7	50.2	50.2	30.67	-	60.7	60.3	60.6	32.13	-
19	53.1	53.0	52.9	31.71	-	61.2	59.9	59.9	30.47	-
20	53.8	53.0	-	.04	-	60.2	58.2	58.1	28.94	-
21	53.0	53.0	-	.11	-	64.4	60.9	60.9	29.94	-
22	53.0	52.4	52.4	.05	31.33	64.2	61.1	60.9	29.90	-
23	53.0	52.4	-	.68	-	63.0	61.1	61.1	30.37	-
24	53.2	52.9	-	.77	-	63.9	61.2	61.1	29.43	-
25	53.8	53.0	-	.48	-	65.8	61.4	61.1	.88	32.94
26	54.0	53.0	53.0	31.56	-	67.0	60.9	60.9	29.67	-
27	55.0	53.3	53.3	32.12	-	65.7	65.1	65.0	31.23	-
28	54.5	54.0	53.9	.91	-	65.8	65.3	65.3	31.11	-
29	54.6	54.1	54.1	.87	33.02	66.8	65.4	65.6	30.56	-
30	54.5	54.3	54.3	32.41	-	69.9	65.8	65.8	26.06	-
31	55.7	54.5	54.5	31.27	-					
Mean	52.4	51.6	51.4	31.85	32.65	61.2	59.7	59.6	30.66	32.17

Table 18 (Cont'd)

SAVANNAH LIGHTSHIP 31°56.5'N. 80°39.6'W. Depth of water - 72 feet

1958

	May					June				
	Temperature °F			Salinity o/oo		Temperature °F			Salinity o/oo	
Depth / Day	0'	30'	48'	0'	48'	0'	30'	48'	0'	48'
1	70.8	65.7	65.7	27.85	-	75.0	74.9	74.7	31.34	-
2	71.9	65.4	65.7	28.59	31.51	-	-	-	30.80	-
3	72.4	65.2	65.3	29.56	-	78.1	76.4	76.1	29.83	-
4	70.9	63.7	63.2	29.70	-	77.1	77.0	76.9	30.82	-
5	-	-	-	26.40	-	76.9	76.3	76.2	31.11	-
6	68.3	65.3	65.2	29.60	-	79.1	76.7	76.1	29.81	-
7	65.9	65.9	65.1	30.39	-	80.6	78.7	-	22.73	31.18
8	-	-	-	30.99	-	78.9	77.2	77.0	30.52	-
9	67.0	65.0	64.3	29.87	32.14	79.0	76.9	76.9	30.52	-
10	65.6	63.3	63.0	30.44	-	80.9	78.1	76.8	29.54	-
11	66.6	62.8	62.7	.42	-	80.3	77.4	-	30.39	-
12	67.7	63.3	62.8	.18	-	-	-	-	.53	-
13	69.9	64.4	63.9	30.59	-	78.8	75.2	75.2	30.90	-
14	67.1	67.1	66.6	31.41	-	79.7	75.7	75.5	31.09	32.22
15	68.6	68.1	68.1	31.95	-	78.5	75.2	75.1	.52	-
16	70.0	68.1	68.0	29.40	31.95	79.1	75.1	74.7	.87	-
17	71.5	69.9	69.9	30.73	-	78.4	74.7	74.2	.73	-
18	71.7	68.7	68.7	.16	-	78.0	74.7	74.4	31.79	-
19	74.3	68.8	68.7	.16	-	79.2	74.8	74.4	30.86	-
20	74.1	68.5	68.5	30.04	-	78.1	76.2	74.2	32.64	-
21	74.1	69.1	69.0	31.64	-	79.1	74.9	74.8	.34	33.14
22	73.6	68.6	68.5	30.08	-	79.7	75.5	75.0	.84	-
23	74.7	69.5	69.3	.66	31.77	-	-	-	.74	-
24	-	-	-	.77	-	77.3	74.5	74.3	.66	-
25	-	-	-	30.16	-	78.8	75.1	74.5	.98	-
26	74.1	74.1	74.0	31.17	-	79.0	76.6	76.0	32.35	-
27	74.3	74.6	74.1	.37	-	79.1	77.8	76.8	33.01	-
28	76.0	75.3	74.6	.14	-	78.1	78.0	77.7	.47	33.53
29	77.4	76.3	75.9	.12	-	77.8	77.5	77.3	.23	-
30	75.8	75.7	75.5	.26	31.17	76.2	76.1	75.8	33.27	-
31	76.2	75.9	75.3	31.16	-					
Mean	71.5	68.5	68.2	30.29	31.71	78.5	76.2	75.6	31.31	32.52

Table 18 (Cont'd)

SAVANNAH LIGHTSHIP 31°56.5'N. 80°39.6'W. Depth of water - 72 feet

1958

	July					August				
	Temperature °F			Salinity o/oo		Temperature °F			Salinity o/oo	
Depth / Day	0'	30'	48'	0'	48'	0'	30'	48'	0'	48'
1	75.1	74.9	74.7	33.29	-	83.9	81.7	81.0	34.78	-
2	78.8	77.8	77.6	.22	-	84.8	80.9	80.8	35.25	35.62
3	78.1	77.9	77.8	33.09	-	84.0	80.7	80.7	34.26	-
4	78.9	78.1	78.1	32.93	-	83.5	80.7	80.0	34.40	-
5	78.8	78.2	78.6	33.23	33.27	82.8	80.9	80.3	35.05	-
6	82.0	79.7	79.3	32.60	-	82.3	82.2	82.0	.32	-
7	83.3	80.1	79.9	.20	-	83.5	82.0	81.9	35.35	-
8	82.5	79.9	79.9	.44	-	83.9	82.4	82.2	34.77	-
9	83.9	80.1	80.1	.62	-	83.5	82.6	82.5	34.68	35.37
10	84.0	80.2	80.1	.84	-	83.5	82.8	82.8	35.02	-
11	83.2	80.5	80.5	32.77	-	84.0	82.6	82.1	.28	-
12	-	-	-	-	-	83.8	82.5	-	.06	-
13	83.1	81.7	81.7	33.36	33.94	83.3	82.9	82.5	.49	-
14	83.4	81.5	81.0	.50	-	83.9	83.0	82.0	.19	-
15	83.8	80.8	-	.45	-	85.2	83.1	-	.20	-
16	83.8	81.1	81.1	.25	-	85.0	83.3	83.2	35.24	35.49
17	83.1	81.0	80.2	.23	-	86.0	83.7	83.5	34.53	-
18	83.1	80.9	80.4	33.75	-	83.8	83.5	83.5	35.09	-
19	82.1	81.0	80.2	34.39	34.84	83.8	83.3	-	.44	-
20	82.2	79.7	79.1	36.05	-	83.5	83.6	83.1	.45	-
21	82.4	79.8	79.2	34.48	-	84.0	83.7	83.5	.45	-
22	83.1	80.0	79.9	34.78	-	84.2	84.0	83.9	.38	-
23	82.3	80.0	79.9	35.08	-	84.0	84.0	84.0	35.04	35.60
24	81.2	80.6	80.1	34.95	-	85.0	84.3	84.0	34.80	-
25	82.0	81.2	81.0	35.13	-	85.0	84.5	84.2	35.09	-
26	83.1	80.9	80.7	34.63	35.39	85.0	-	-	34.91	-
27	83.3	81.1	81.1	.96	-	82.5	82.7	82.5	35.02	-
28	82.9	81.1	80.9	.98	-	83.0	83.0	83.0	.21	-
29	84.0	81.2	81.0	.55	-	83.0	82.5	82.3	.36	-
30	84.0	81.6	81.4	.46	-	83.3	82.8	82.7	.42	35.52
31	81.8	81.8	81.7	34.06	-	83.3	82.7	82.7	35.45	-
Mean	82.1	80.1	79.9	33.81	34.36	83.9	82.8	82.5	35.10	35.52

Table 18 (Cont'd)

SAVANNAH LIGHTSHIP 31°56.5'N. 80°39.6'W. Depth of water - 72 feet

1958

	September					October				
	Temperature °F			Salinity o/oo		Temperature °F			Salinity o/oo	
Depth / Day	0'	30'	48'	0'	48'	0'	30'	48'	0'	48'
1	83.4	83.1	83.0	33.53	-	78.3	78.2	78.2	35.44	-
2	83.2	83.1	83.0	34.94	-	77.7	77.9	77.9	.44	-
3	81.9	81.9	81.8	35.51	-	76.8	76.9	77.0	35.24	35.23
4	81.6	81.4	81.2	.64	-	77.3	77.6	77.7	34.90	-
5	81.1	80.9	80.9	.70	-	77.0	77.1	77.1	.74	-
6	80.1	79.9	79.8	.67	35.69	76.0	76.1	76.1	.75	-
7	81.4	80.2	80.2	35.61	-	74.3	74.5	74.5	.62	-
8	81.9	81.2	81.1	34.79	-	74.4	74.4	74.6	.45	-
9	81.9	81.7	81.3	35.74	-	74.7	74.6	74.6	.38	-
10	82.6	81.2	81.1	35.36	-	75.6	75.6	75.6	.47	34.48
11	82.1	81.5	81.3	34.80	-	75.1	75.3	75.5	.60	-
12	81.9	82.0	82.0	35.46	-	74.3	74.3	74.4	.87	-
13	80.3	80.6	80.4	.37	35.36	73.9	73.9	74.0	34.84	-
14	80.9	80.9	80.8	.48	-	73.4	73.4	73.4	35.04	-
15	81.6	80.9	80.6	.42	-	73.2	73.2	73.1	35.00	-
16	82.4	81.1	81.1	.36	-	73.6	73.6	73.5	34.86	-
17	83.1	81.7	81.3	.75	-	73.7	73.5	73.4	.88	-
18	83.0	81.8	81.9	35.12	-	73.7	73.8	73.8	.89	-
19	81.2	80.1	80.1	34.97	-	-	-	-	.66	-
20	82.1	81.9	81.9	35.19	35.40	71.4	71.9	71.9	34.72	-
21	81.9	81.7	81.6	35.19	-	70.9	70.9	70.9	35.13	-
22	82.5	81.8	81.8	34.87	-	69.1	69.8	-	35.16	-
23	82.6	82.1	82.1	34.31	-	69.6	69.8	70.0	34.85	-
24	81.9	81.9	81.8	35.14	-	68.8	70.0	70.0	.20	34.99
25	81.3	81.2	81.1	.30	-	69.0	69.3	69.9	34.74	-
26	81.1	81.2	81.7	.40	-	69.3	69.4	69.4	35.02	-
27	80.9	80.7	80.4	35.27	35.30	68.7	68.7	68.8	.09	-
28	80.1	80.0	79.7	34.79	-	68.1	68.1	68.2	.31	-
29	80.3	80.0	80.0	35.02	-	67.7	67.8	67.8	.37	-
30	79.9	79.8	79.8	35.30	-	67.4	67.6	67.9	.40	-
31						67.6	67.4	67.4	35.58	35.57
Mean	81.7	81.2	81.2	35.20	35.44	72.7	72.8	73.0	34.92	35.07

Table 18 (Cont'd)

SAVANNAH LIGHTSHIP 31°56.5'N. 80°39.6'W. Depth of water - 72 feet

1958

	November					December				
	Temperature °F			Salinity o/oo		Temperature °F			Salinity o/oo	
Depth / Day	0'	30'	48'	0'	48'	0'	30'	48'	0'	48'
1	67.3	67.5	67.6	35.77	-	64.8	65.1	65.2	35.73	-
2	67.3	67.8	67.9	.78	-	65.0	65.0	65.1	.75	-
3	65.4	65.6	65.7	35.16	-	64.8	64.9	64.9	.67	-
4	64.9	65.1	66.0	34.48	-	64.2	64.3	64.4	35.63	-
5	64.1	65.9	66.2	33.72	-	63.1	63.5	64.4	34.76	35.57
6	65.6	65.7	65.7	35.17	-	64.1	64.1	64.1	35.61	-
7	64.9	65.7	65.9	34.29	35.05	63.8	64.0	64.0	.69	-
8	65.4	65.3	65.4	35.38	-	63.5	63.7	63.8	.75	-
9	66.0	66.1	66.1	34.70	-	62.8	62.9	63.0	.52	-
10	65.3	65.8	65.8	.73	-	62.4	62.9	62.9	.70	-
11	64.8	65.1	65.2	34.64	-	58.9	59.7	59.8	.79	-
12	65.4	65.5	65.6	35.38	-	59.5	59.7	59.8	.58	35.56
13	65.2	65.4	65.8	35.06	-	-	58.9	59.1	.65	-
14	65.2	65.9	65.9	34.96	35.41	58.8	59.0	59.1	.61	-
15	66.9	66.1	66.1	.69	-	56.5	57.1	57.1	.36	-
16	65.7	65.9	65.9	34.22	-	55.9	56.2	56.6	.52	-
17	66.2	66.0	66.1	33.58	-	55.7	56.1	56.1	.64	-
18	65.9	65.9	65.9	34.58	-	55.4	55.6	55.7	.51	-
19	67.0	66.1	66.1	33.95	-	55.1	55.2	55.5	.51	35.50
20	66.1	66.2	66.3	34.80	-	55.2	55.0	55.0	.21	35.27
21	66.2	66.2	66.1	35.10	35.10	55.1	55.1	55.0	.02	-
22	65.3	66.0	66.2	34.75	-	54.8	54.6	54.5	.22	-
23	65.7	66.2	66.1	33.74	-	55.2	55.2	55.6	35.38	-
24	66.1	66.0	66.1	33.60	-	54.6	55.9	55.7	34.57	-
25	66.3	66.1	66.0	34.12	-	55.0	55.1	55.1	35.52	-
26	66.6	67.0	67.0	35.22	-	53.4	53.9	54.2	35.12	-
27	65.9	66.2	66.4	.14	-	52.3	52.3	52.5	34.95	34.94
28	67.1	67.0	67.0	.67	35.67	52.8	52.8	52.9	35.02	-
29	64.9	66.8	66.9	35.64	-	52.7	52.5	52.5	34.86	-
30	66.0	66.2	66.3	-	-	-	-	-	.95	-
31						52.6	52.7	52.4	34.66	-
Mean	65.8	66.1	66.2	34.76	35.31	58.2	58.4	58.5	35.37	35.37

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